



FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC

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Prepared for

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATIONS, INC.

EUT DESCRIPTION: GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC

SERIAL NUMBER: CB5129YWFF, CB5129YWGW, CB5129YNPZ, CB5129YNZZ

DATE TESTED: March 7 - 18, 2016

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revision section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC and ANSI C63.10-2013, FCC CFR 47 Part 2, and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☒ Chamber C	☐ Chamber F
	☐ Chamber G
	☐ Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance, 1000 to 6000 MHz	3.86 dB
Radiated Disturbance, 6000 to 18000 MHz	4.23 dB
Radiated Disturbance, 18000 to 26000 MHz	5.30 dB
Radiated Disturbance, 26000 to 40000 MHz	5.23 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	Basic GFSK	11.14	13.00
2402 - 2480	Enhanced 8PSK	9.42	8.75

Note: GFSK, Pi/4-DQPSK, 8PSK average Power are all investigated, The GFSK & 8PSK Power are the worst case. Testing is based on this mode of showing compliance. For average power data, please refer to section 8.7.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes integrated antenna, with a maximum as below:

Frequency (MHz)	Antenna Gain (dBi)
2.402	-7.0
2.441	-6.2
2.480	-6.9

5.4. SOFTWARE AND FIRMWARE

The firmware/SW installed in the EUT during testing was SONY, s_atp_xxxx_1_600_7_9

The hardware version was A

The test utility software used during testing was Tera Term, rev 4.8.3(SVN#5602)

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit on the channel with higher output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SONY	UCH 20 1295-70821	N/A	N/A
Earphone	SONY	N/A	N/A	N/A
DC Power Supplier	Sorensen	XHR60-18	130A01935	N/A
Laptop	Lenovo	T450	PC-04ACGP	N/A
Laptop AC Adapter	Lenovo	ADLX65NLC2A	11S45N025971Z9751KU2U	N/A

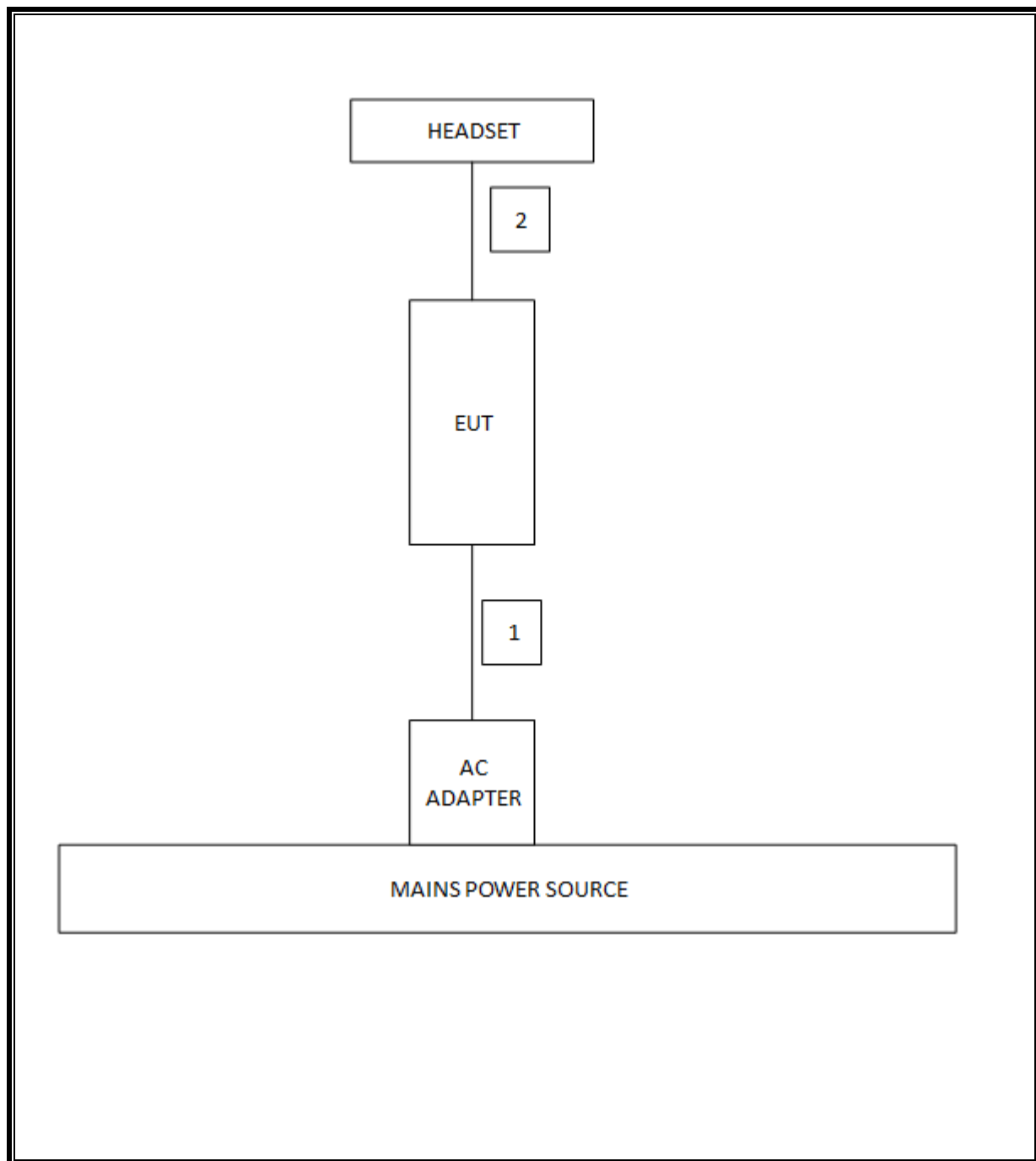
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

TEST SETUP

The EUT is continuously communicating to the Bluetooth tester during the tests. EUT was set in the Hidden menu mode to enable BT communications.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	Manufacturer	Model	T Number	Cal Due
Amplifier, 1-18GHz	Miteq	AFS42-00101800-25-S-42	493	03/09/17
Amplifier, 1-18GHz	Miteq	AFS42-00101800-25-S-42	1165	07/20/16
Amplifier, 1-8GHz, 35 dB	Miteq	AMF-4D-01000800-30-29P	1156	03/09/17
Amplifier, 1-8GHz, 35 dB	Miteq	AMF-4D-01000800-30-29P	1172	07/20/16
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	122	01/29/17
Antenna, Horn, 18GHz	ETS Lindgren	3117	344	02/22/17
Antenna, Horn, 18GHz	ETS Lindgren	3117	345	02/22/17
Antenna, Horn, 18GHz	ETS Lindgren	3117	346	02/22/17
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/12/16
Bluetooth Tester	Rohde & Schwarz	CBT	258	06/30/16
ESR7 EMI Test Receiver 7GHz	Rohde & Schwarz	ESR	1436	12/19/16
High Pass Filter 3GHz	Micro-Tronics	HPS17543	485	03/09/17
High Pass Filter 3GHz	Micro-Tronics	HPS17543	486	07/20/16
High Pass Filter 6GHz	Micro-Tronics	HPS17542	483	03/09/17
High Pass Filter 6GHz	Micro-Tronics	HPS17542	484	07/20/16
LISN, 30 MHz	FCC	FCC-LISN-50/250-25-2	24	2/9/2017
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	482	03/09/17
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	481	07/20/16
Peak / Average Power Sensor	Keysight	N1921A	750	09/17/16
Peak Power Meter	Agilent / HP	N1911A	1268	07/06/17
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	88	04/07/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	404	06/29/16
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	99	06/10/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	PRE0126762	03/09/17
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	PRE0126777	12/21/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	907	01/06/17

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015
Antenna Port Software	UL	UL RF	Ver 4.2, Mar 7, 2016

7. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
2.1049	RSS-GEN 6.6	Occupied Bandwidth (99%)	N/A	Conducted	Pass
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass
15.247 (b)(1)	RSS-247 5.4.2	TX conducted output power	<21dBm		Pass
15.247 (a)(1)	RSS-247 5.1.2	Hopping frequency separation	> 25KHz		Pass
15.247 (a)(1)(iii)	RSS-247 5.1.4	Number of Hopping Channels	More than 15 non-overlapping channels		Pass
15.247 (a)(1)(iii)	RSS-247 5.1.4	Avg Time of Occupancy	< 0.4sec		Pass
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass
15.205, 15.209, 15.247(d)	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME, DUTY CYCLE

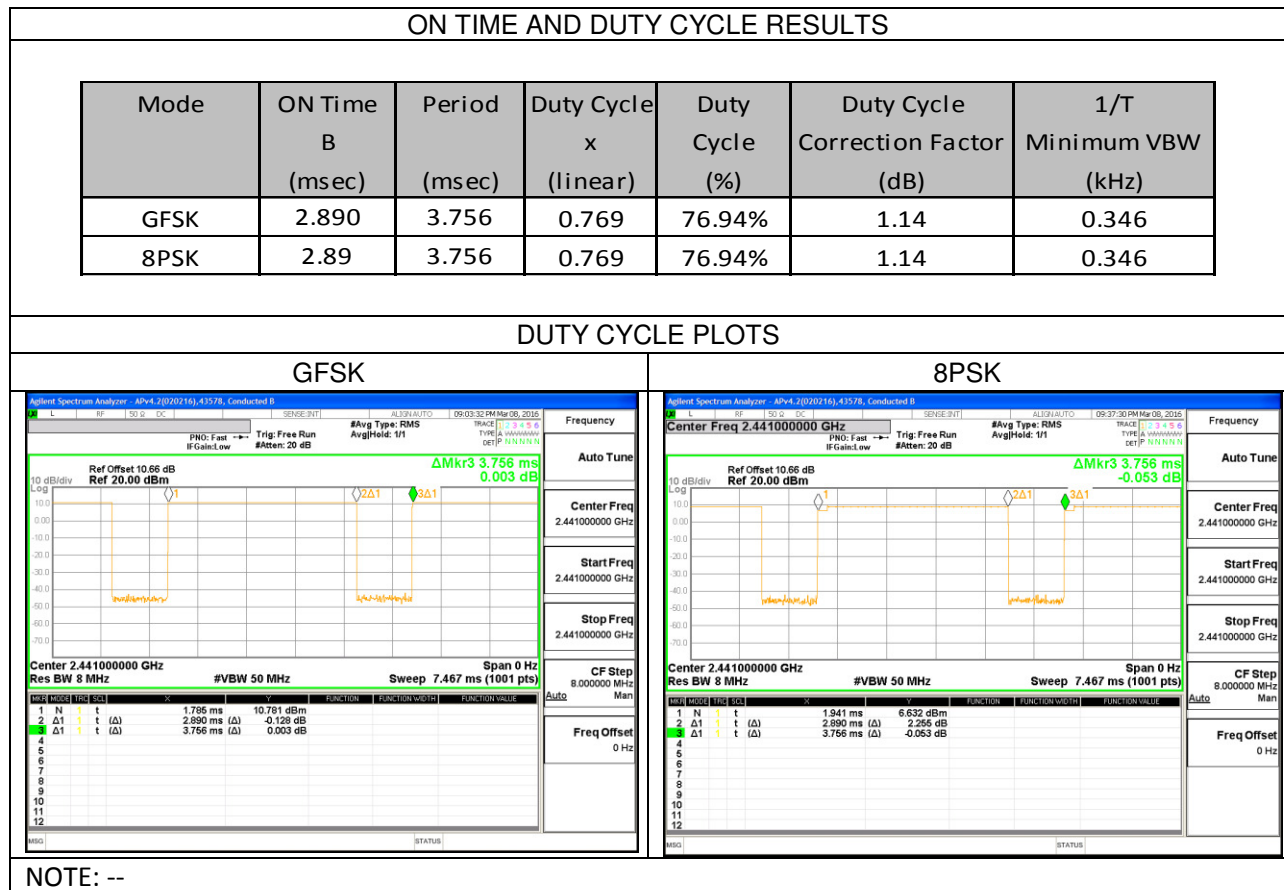
LIMITS

None; for reporting purposes only

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

RESULTS



8.2. 20 dB AND 99% BANDWIDTH

LIMIT

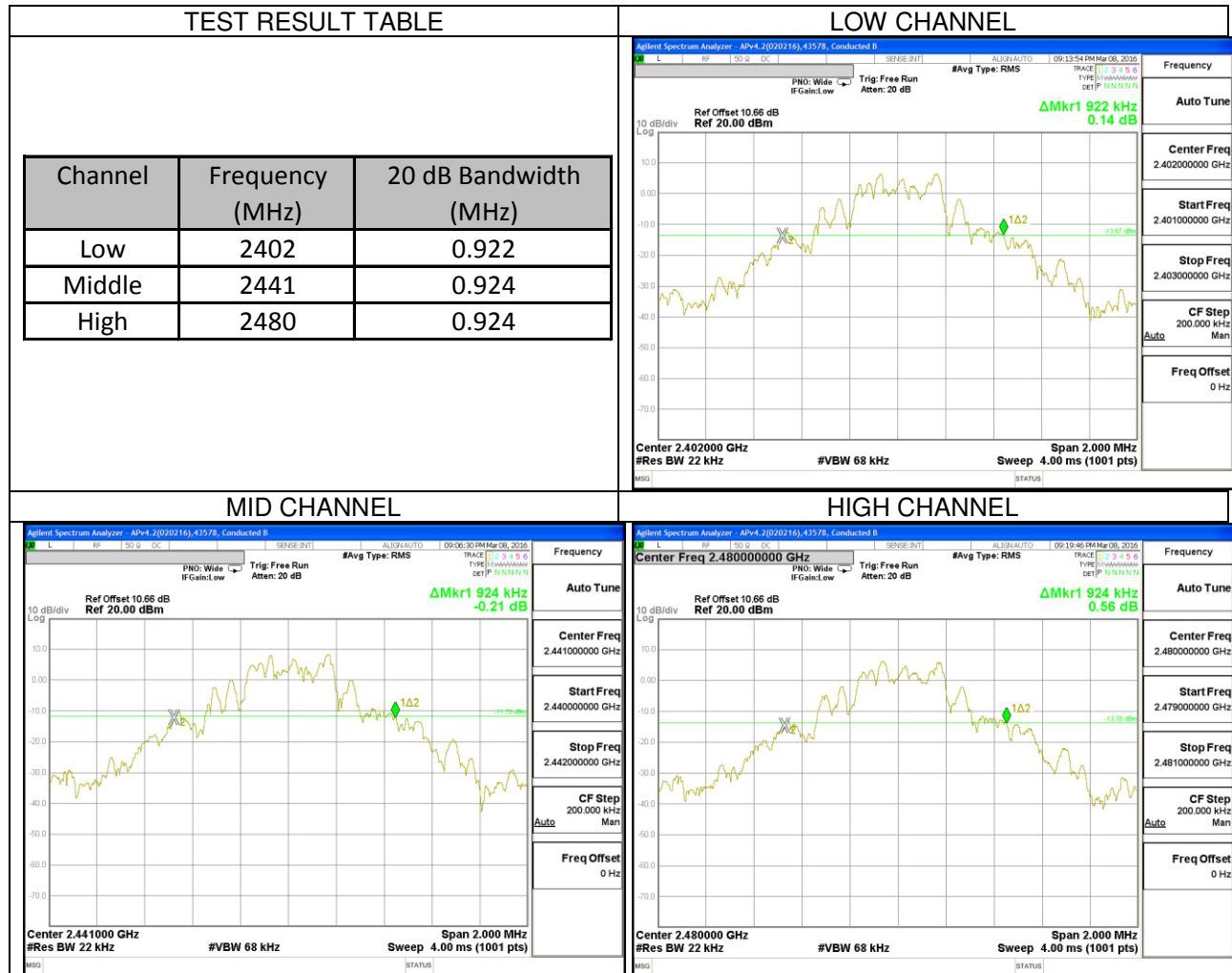
None; for reporting purposes only.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer. The RBW is set to $\geq$ 1% of the 20 dB bandwidth. The VBW is set to $\geq$ RBW. The sweep time is coupled.

RESULTS

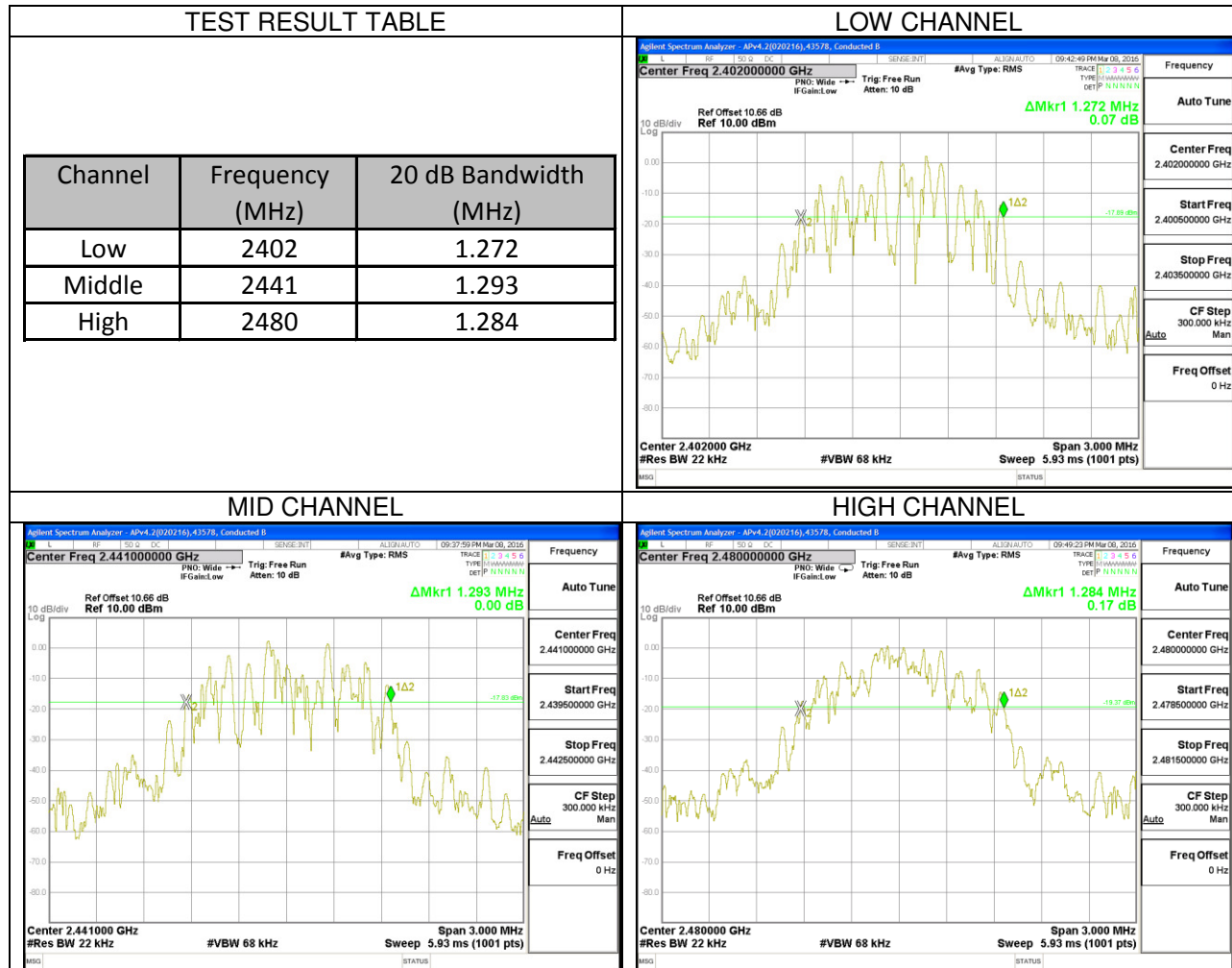
8.2.1. GFSK 20 dB BANDWIDTH PLOTS AND TABLE



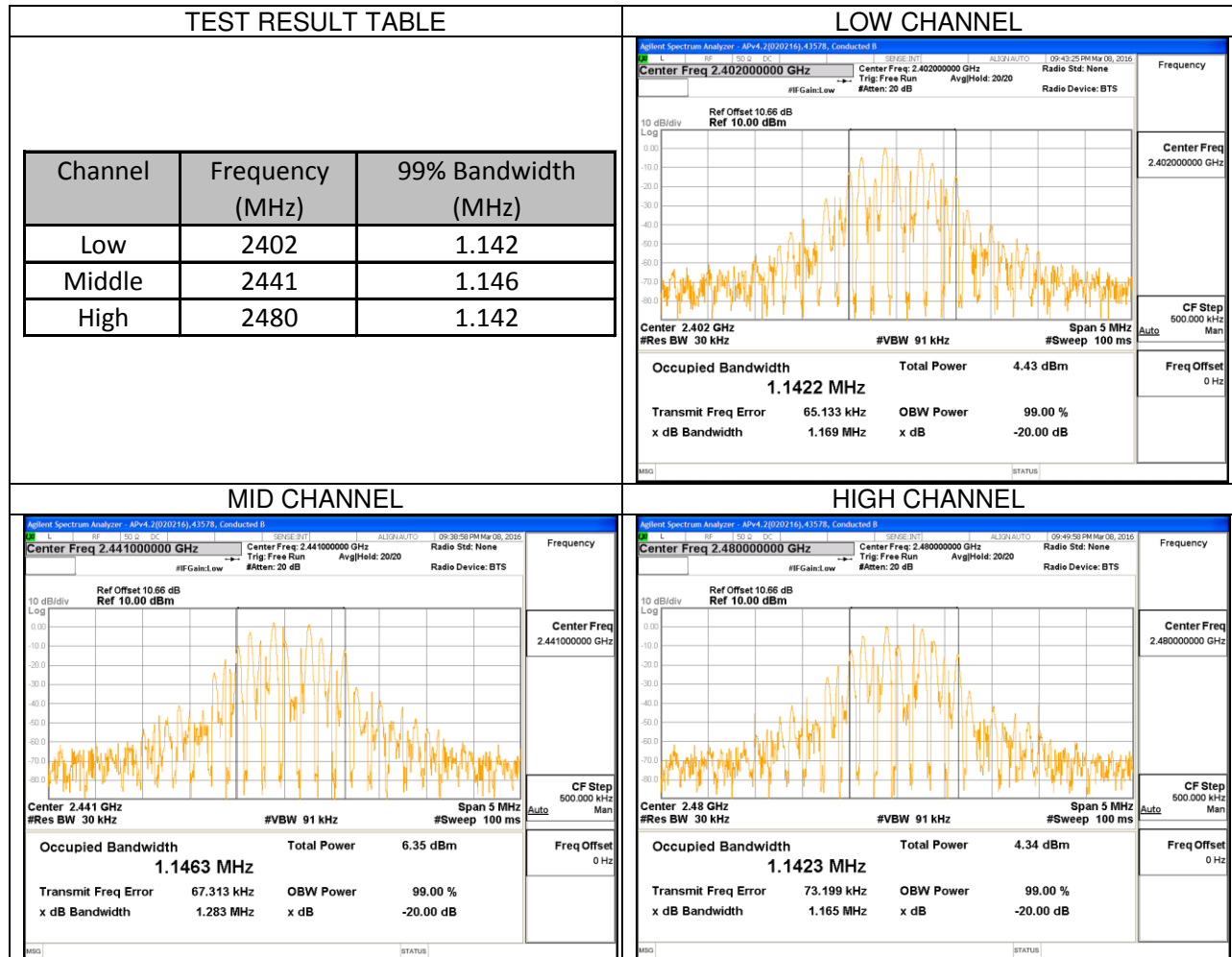
8.2.2. GFSK 99% BANDWIDTH PLOTS AND TABLE



8.2.3. 8PSK 20 dB BANDWIDTH PLOTS AND TABLE



8.2.4. 8PSK 99% BANDWIDTH PLOTS AND TABLE



8.3. HOPPING FREQUENCY SEPARATION LIMIT

FCC §15.247 (a) (1)

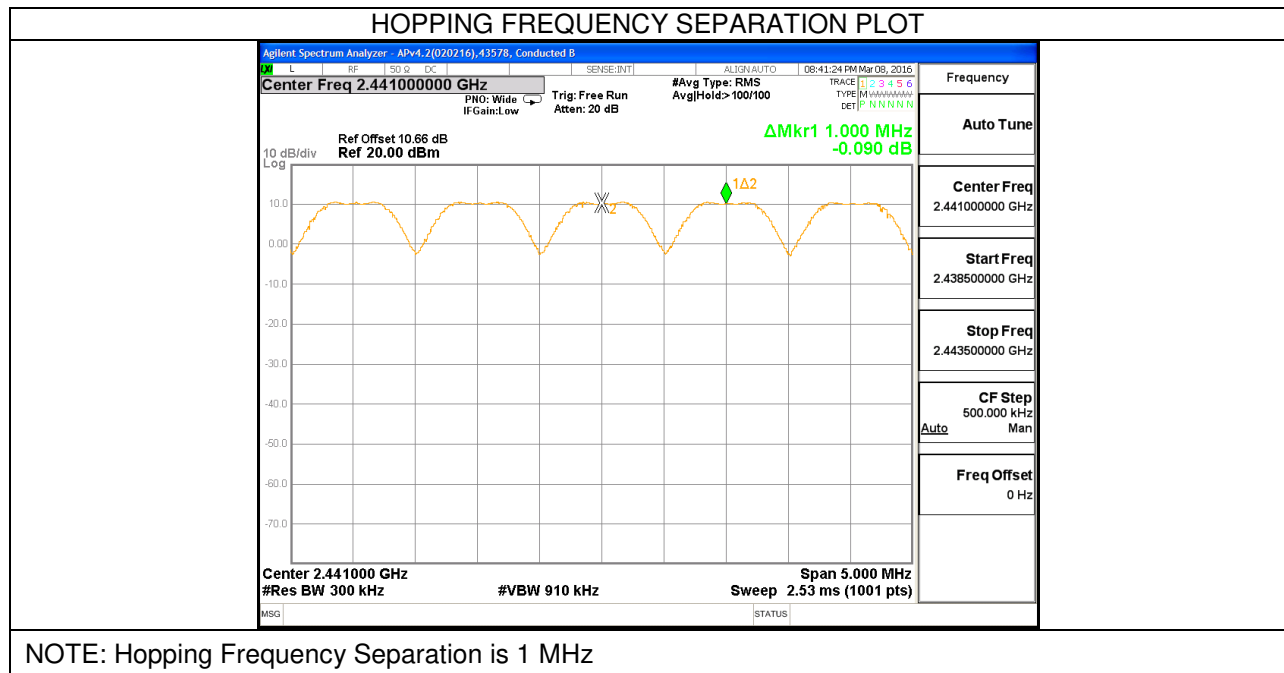
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer. The RBW is set to 300 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS



8.4. NUMBER OF HOPPING CHANNELS LIMIT

FCC §15.247 (a) (1) (iii)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

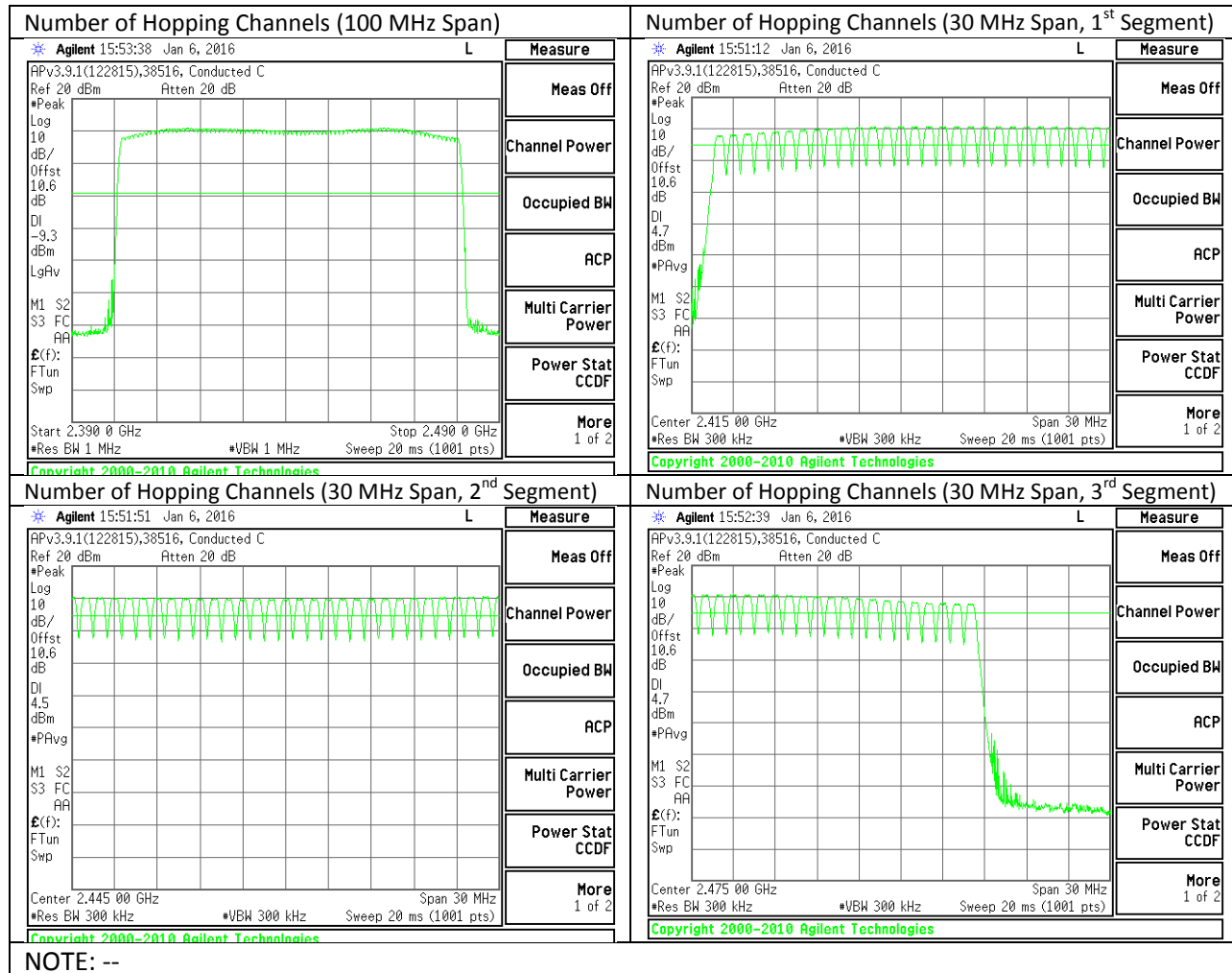
TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

RESULTS

Normal Mode: 79 Channels observed.

8.4.1. NUMBER OF HOPPING CHANNELS PLOTS



8.5. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 3.16 second scan, to enable resolution of each occurrence.

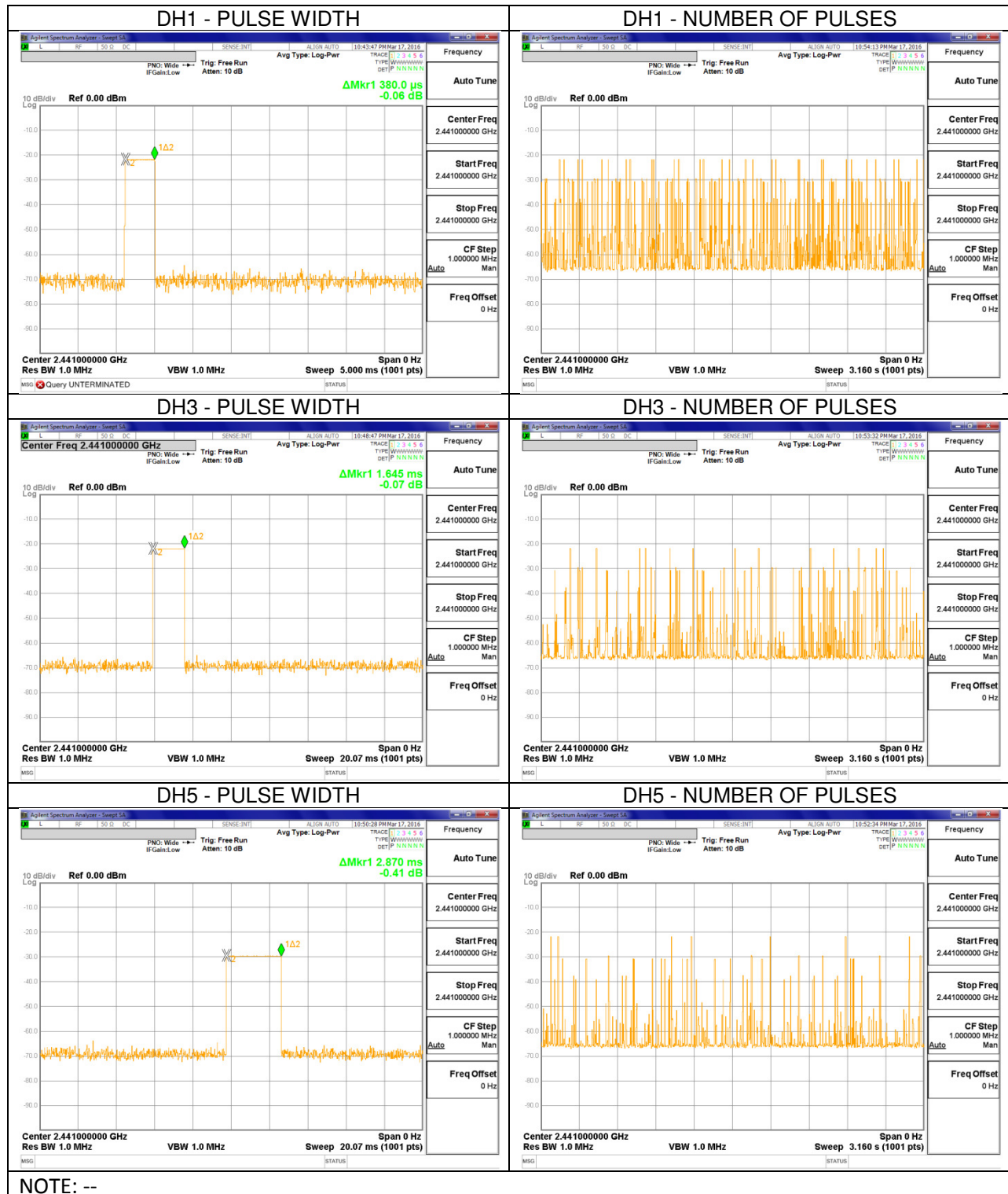
The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to $10 * (\# \text{ of pulses in } 3.16 \text{ s}) * \text{pulse width}$.

For AFH mode, the average time of occupancy in the specified 8 second period (20 channels * 0.4 seconds) is equal to $10 * (\# \text{ of pulses in } 0.8 \text{ s}) * \text{pulse width}$.

RESULTS

AVERAGE TIME OF OCCUPANCY						
DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)	
GFSK Normal Mode						
DH1	0.380	31	0.1178	0.4	-0.2822	
DH3	1.645	13	0.2139	0.4	-0.1862	
DH5	2.870	7	0.2009	0.4	-0.1991	
DH Packet	Pulse Width (sec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)	
GFSK AFH Mode						
DH1	0.380	7.75	0.02945	0.4	-0.3706	
DH3	1.645	3.25	0.05346	0.4	-0.3465	
DH5	2.870	1.75	0.05023	0.4	-0.3498	
NOTE: --						

Pulse Width and Number of Pulses in 3.16 Seconds Period Plots



8.6. OUTPUT POWER

LIMIT

§15.247 (b) (1)

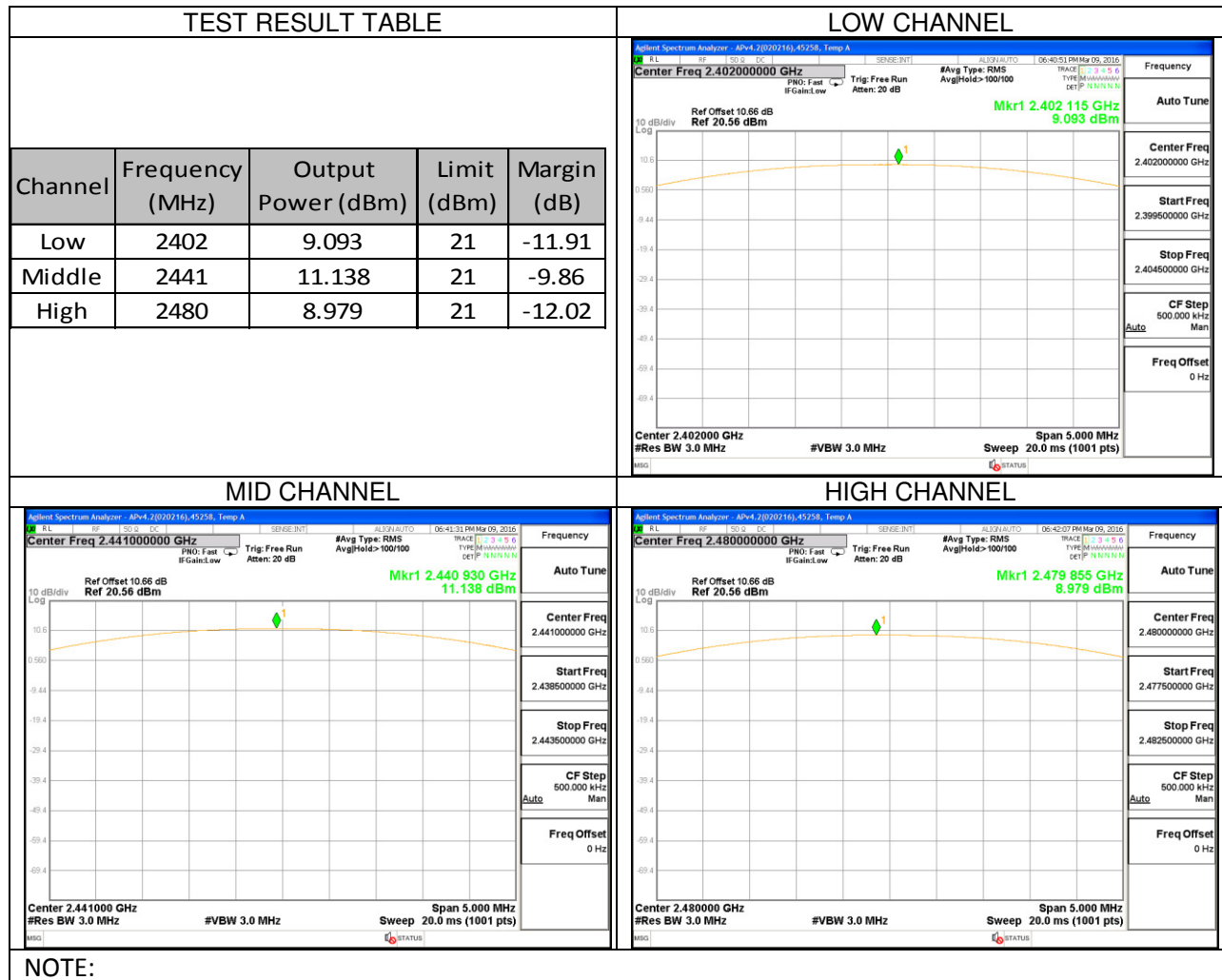
The maximum antenna gain is less than 6 dBi, therefore the limit is 21 dBm.

TEST PROCEDURE

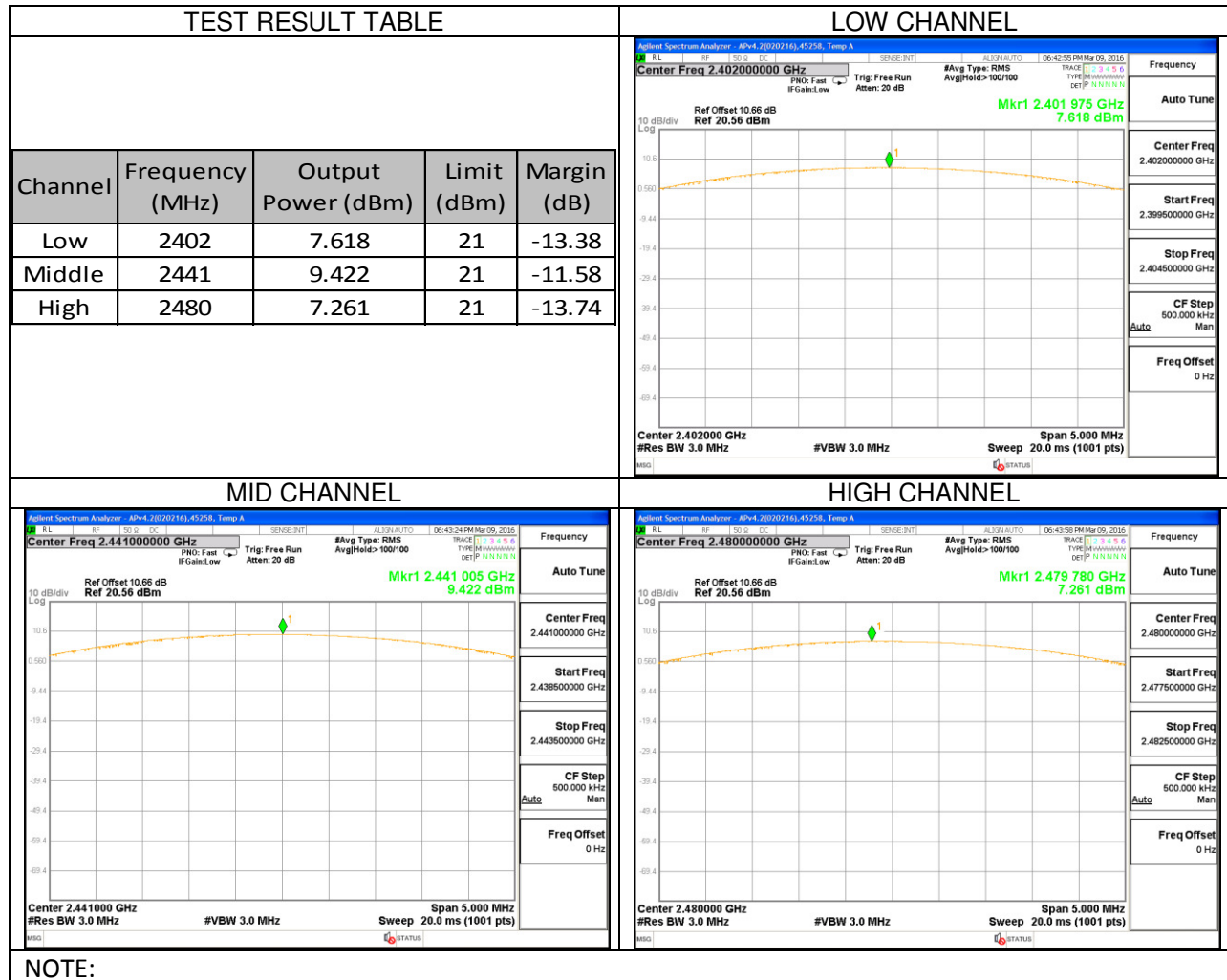
DA 00-705: The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

RESULTS

8.6.1. GFSK OUTPUT POWER PLOTS AND TABLE



8.6.2. 8PSK OUTPUT POWER PLOTS AND TABLE



NOTE:

8.7. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10.6 dB (including 10 dB pad and 0.6 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

BASIC DATA RATE GFSK		
Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	8.7
Middle	2441	10.7
High	2480	8.6
ENHANCED DATA RATE 8DPSK		
Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	4.9
Middle	2441	6.7
High	2480	4.5
NOTE: --		

8.8. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

Limit = -20 dBc

TEST PROCEDURE

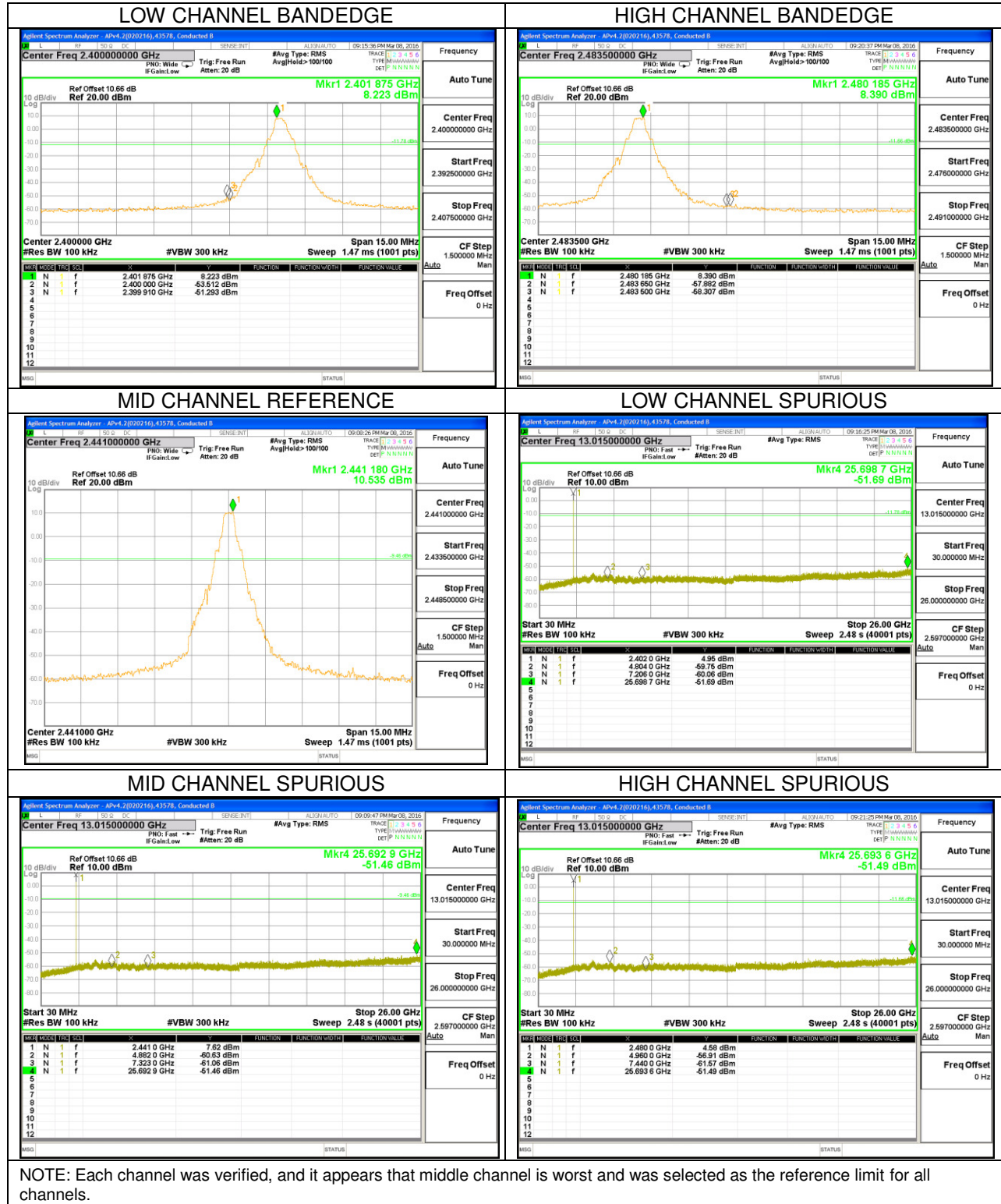
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

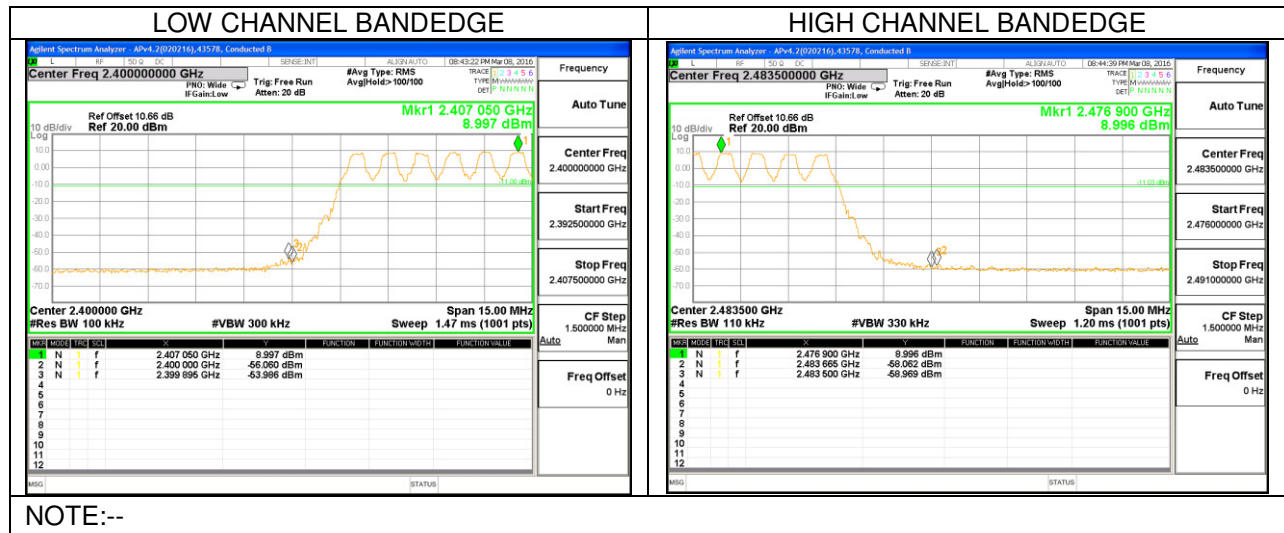
The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

RESULTS

8.8.1. BASIC DATA RATE GFSK MODULATION NON-HOPPING MODE BANDEDGE AND SPURIOUS EMISSIONS PLOTS

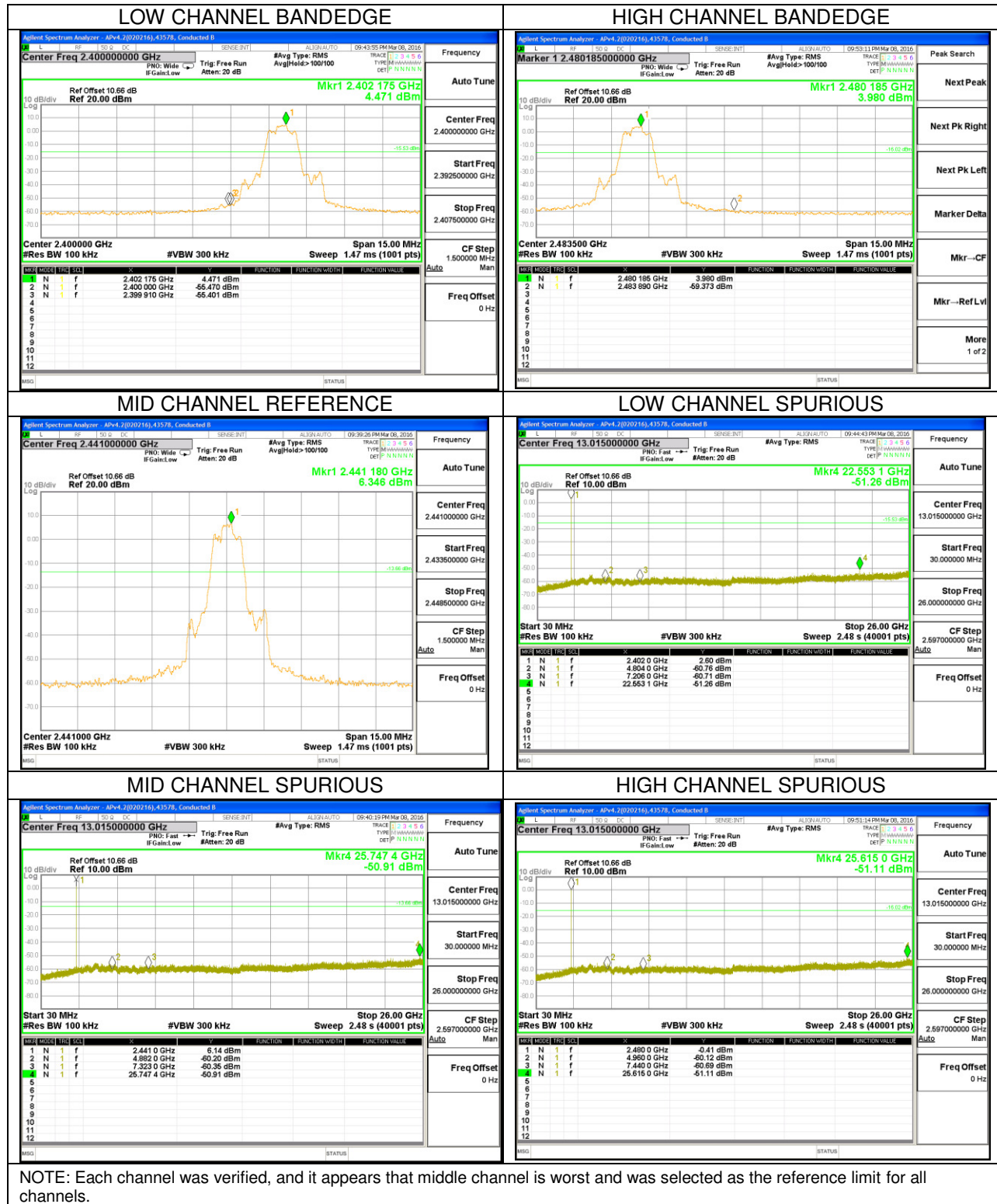


8.8.2. BASIC DATA RATE GFSK MODULATION HOPPING MODE SPURIOUS BANDEDGE EMISSIONS PLOTS

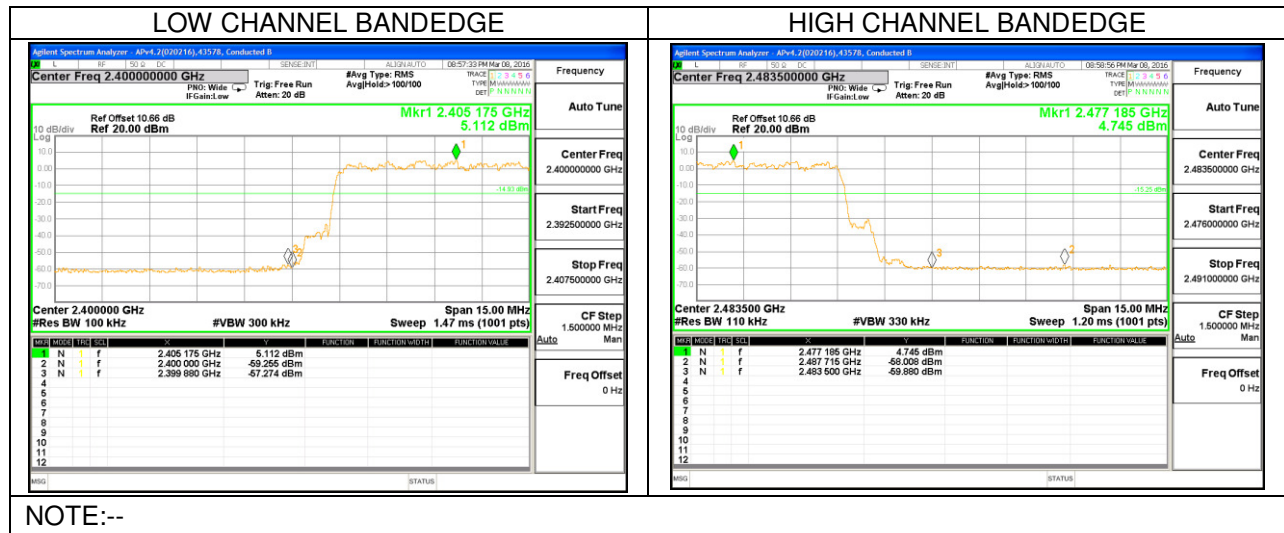


8.8.3. ENHANCED DATA RATE 8PSK MODULATION NON-HOPPING MODE

BANDEDGE AND SPURIOUS EMISSIONS PLOTS



8.8.4. ENHANCED DATA RATE 8PSK MODULATION HOPPING MODE SPURIOUS BANDEDGE EMISSIONS PLOTS



9. RADIATED EMISSION TEST

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For band edge measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 1/T (on time) for average measurement.

The spectrum from 30GHzHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

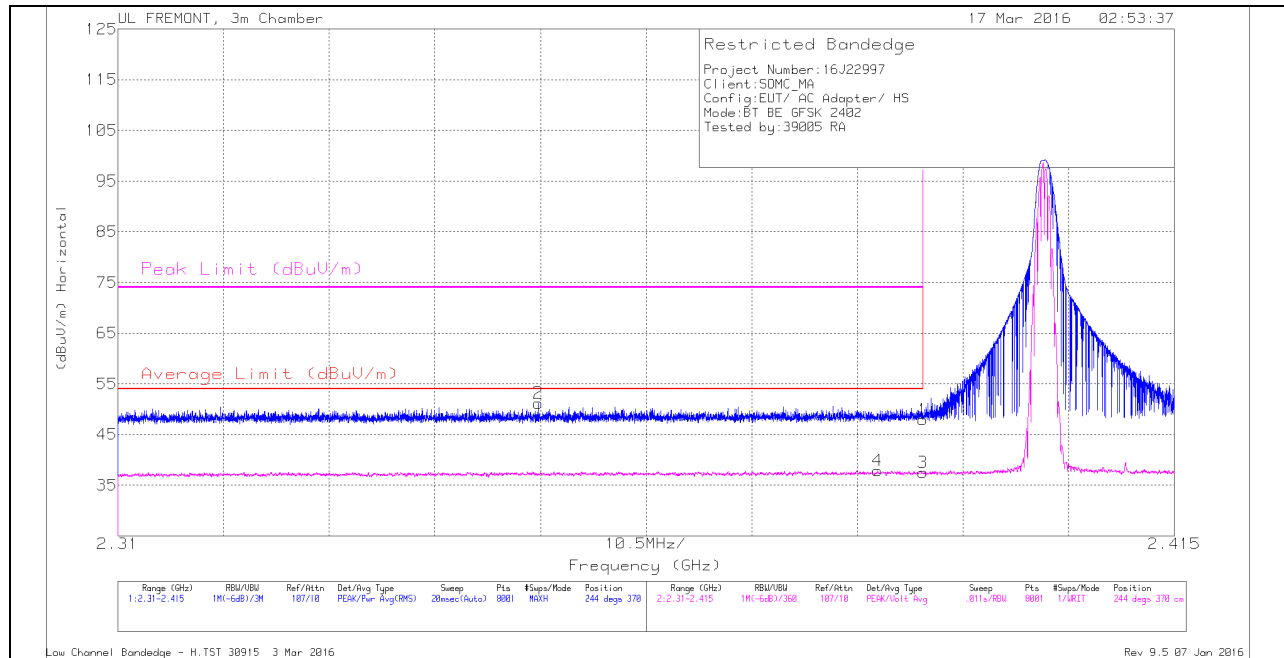
RESULTS

9.1. TRANSMITTER ABOVE 1 GHz

9.1.1. BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

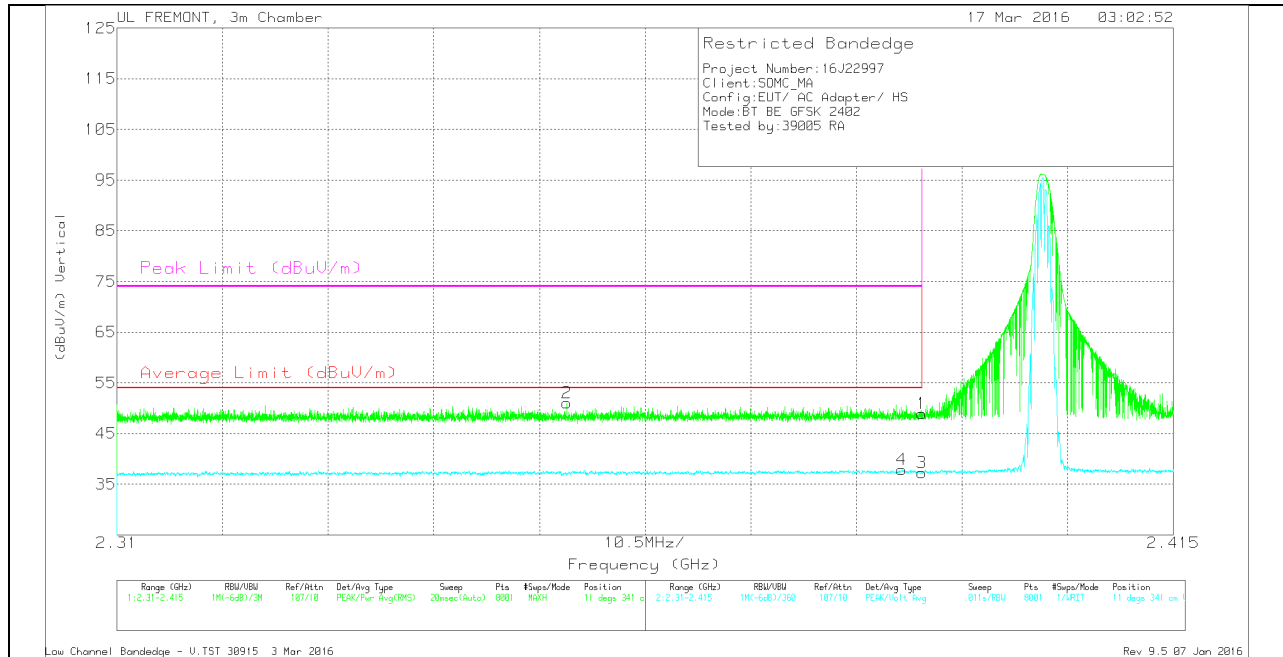
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filt/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.352	41.72	Pk	31.8	-22.3	51.22	-	-	74	-22.78	244	370	H
4	2.386	28.09	VA1T	32	-22.2	37.89	54	-16.11	-	-	244	370	H
1	2.39	38.09	Pk	32	-22.2	47.89	-	-	74	-26.11	244	370	H
3	2.39	27.69	VA1T	32	-22.2	37.49	54	-16.51	-	-	244	370	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Par d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.355	41.56	Pk	31.8	-22.3	51.06	-	-	74	-22.94	11	341	V
4	2.388	28.07	VA1T	32	-22.2	37.87	54	-16.13	-	-	11	341	V
1	2.39	39.07	Pk	32	-22.2	48.87	-	-	74	-25.13	11	341	V
3	2.39	27.4	VA1T	32	-22.2	37.2	54	-16.8	-	-	11	341	V

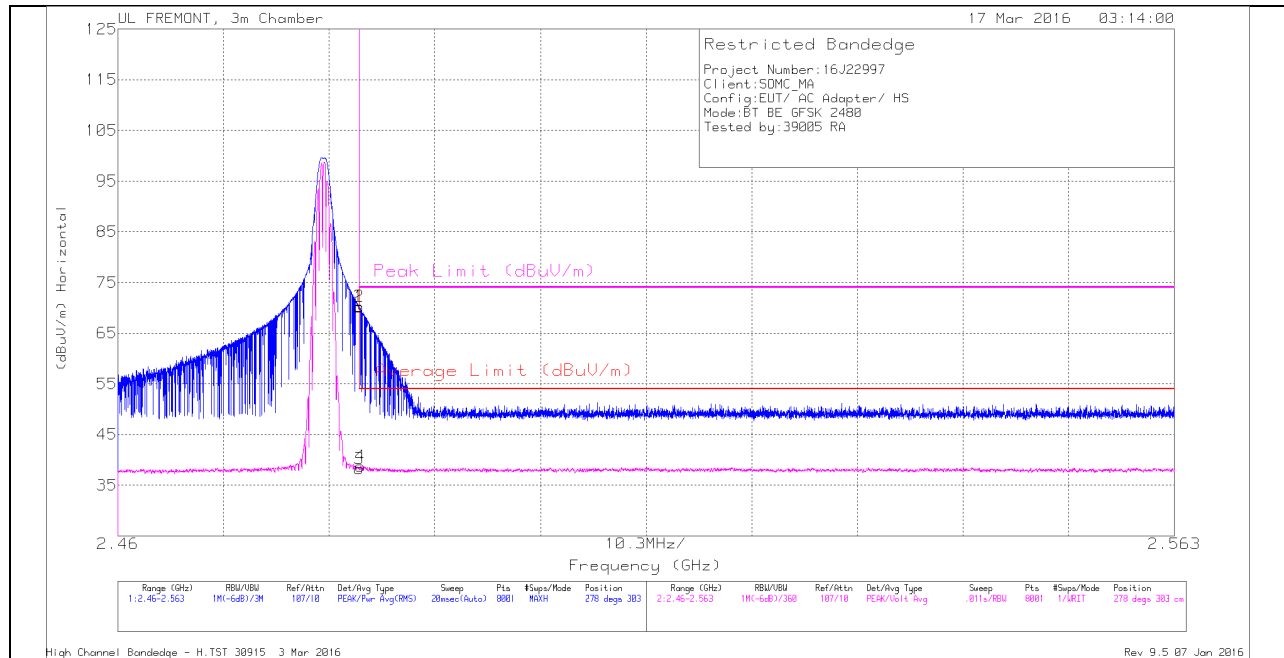
* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $VB=1/Ton$ where: Ton is transmit duration

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

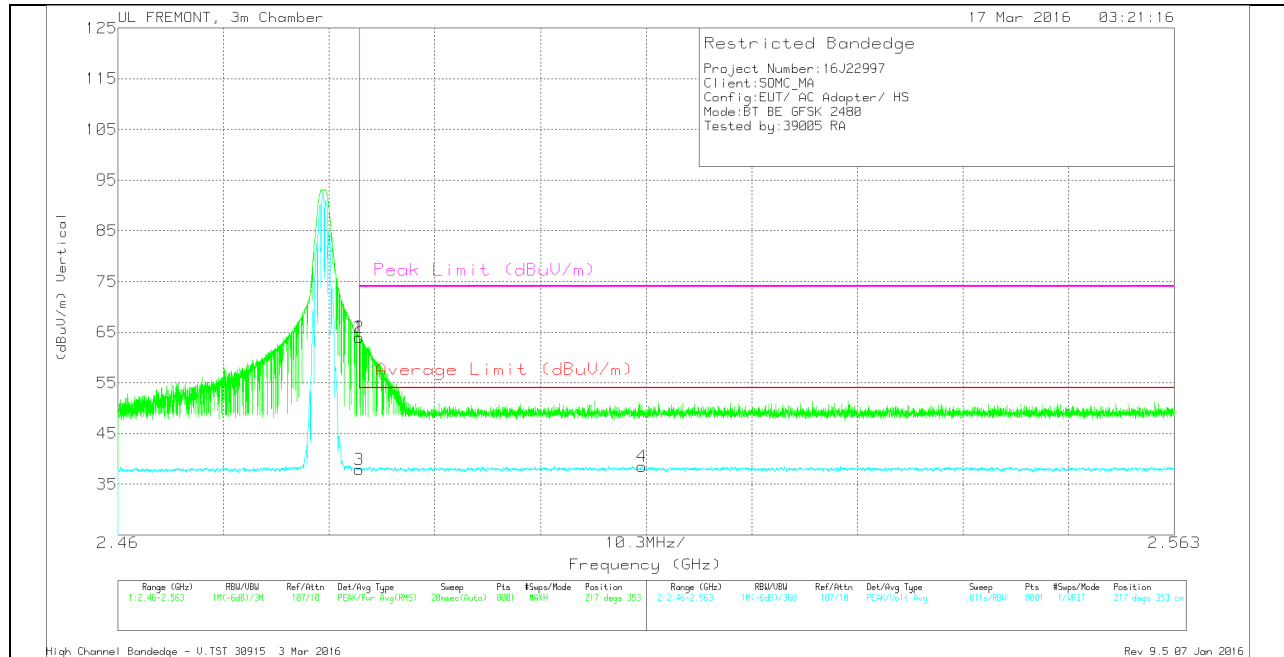
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	59.92	Pk	32.3	-22	70.22	-	-	74	-3.78	278	303	H
2	2.484	59.97	Pk	32.3	-22	70.27	-	-	74	-3.73	278	303	H
3	2.484	28	VA1T	32.3	-22	38.3	54	-15.7	-	-	278	303	H
4	2.484	28.48	VA1T	32.3	-22	38.78	54	-15.22	-	-	278	303	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	53.71	Pk	32.3	-22	64.01	-	-	74	-9.99	217	353	V
2	2.484	53.63	Pk	32.3	-22	63.93	-	-	74	-10.07	217	353	V
3	2.484	27.61	VA1T	32.3	-22	37.91	54	-16.09	-	-	217	353	V
4	2.511	28.11	VA1T	32.3	-21.9	38.51	54	-15.49	-	-	217	353	V

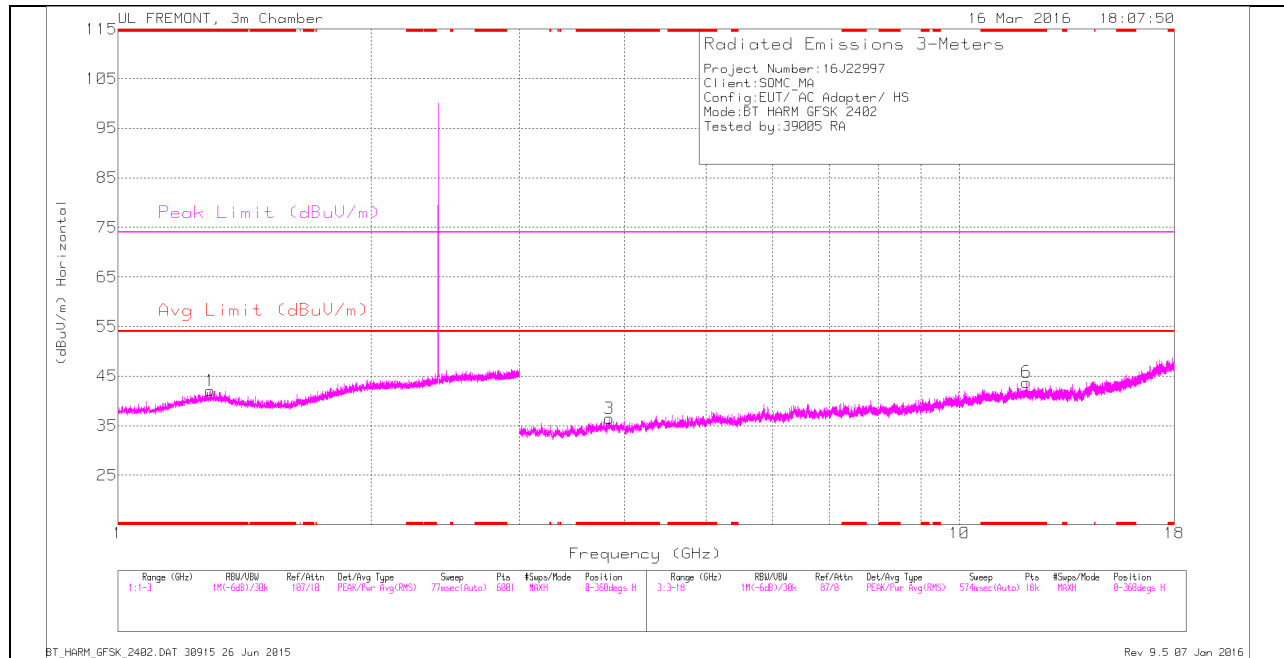
* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $VB=1/Ton$ where: Ton is transmit duration

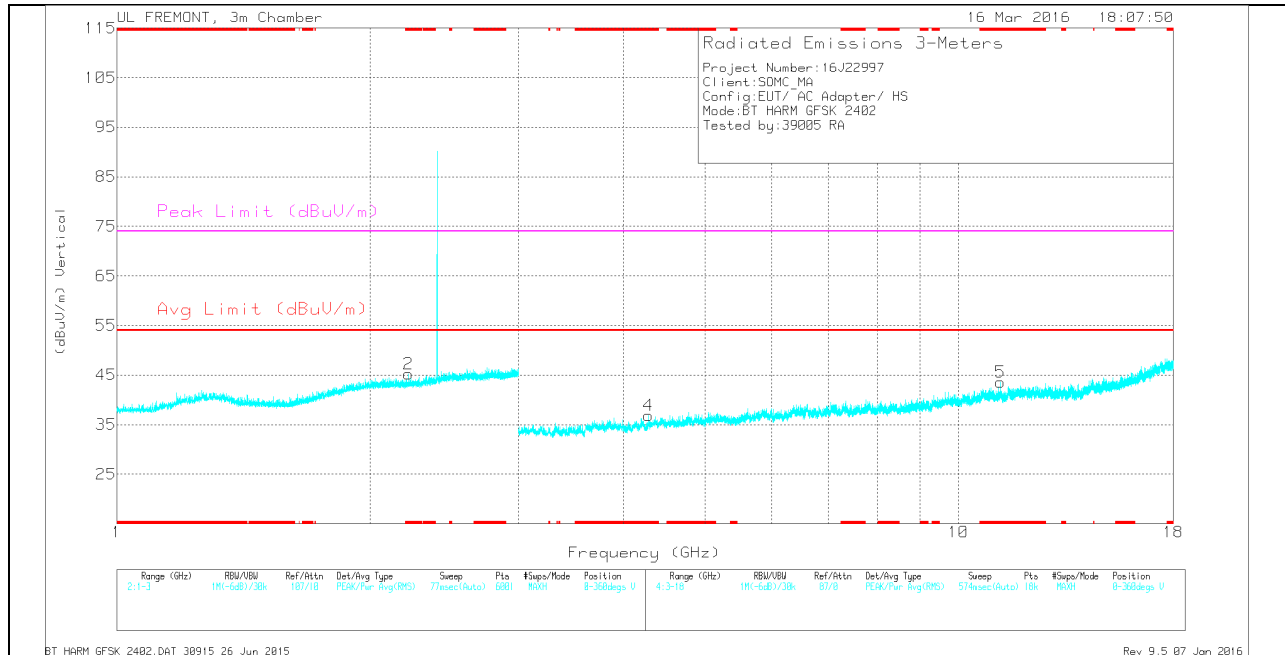
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.287	35.4	Pk	29.8	-23.2	42	-	-	74	-32	0-360	100	H
2	* 2.219	35.93	Pk	31.5	-22.2	45.23	-	-	74	-28.77	0-360	100	V
3	* 3.837	33.54	Pk	33.1	-30.2	36.44	-	-	74	-37.56	0-360	200	H
6	* 12.02	27.76	Pk	39.1	-23.1	43.76	-	-	74	-30.24	0-360	200	H
4	* 4.283	33.35	Pk	33.5	-30	36.85	-	-	74	-37.15	0-360	200	V
5	* 11.215	28.04	Pk	37.9	-22.4	43.54	-	-	74	-30.46	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

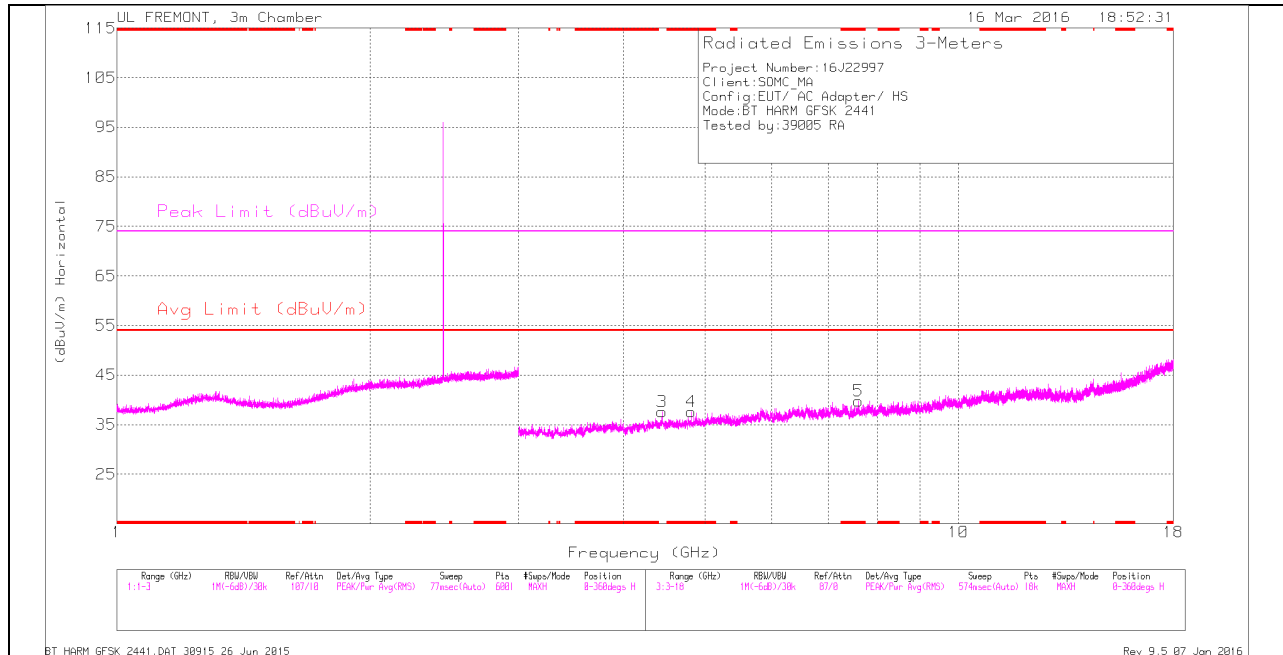
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.287	38.92	PKFH	29.8	-23.2	45.52	-	-	74	-28.48	300	156	H
* 1.288	28.19	VA1T	29.8	-23.2	34.79	54	-19.21	-	-	300	156	H
* 2.218	40.46	PKFH	31.5	-22.2	49.76	-	-	74	-24.24	305	180	V
* 2.219	27.94	VA1T	31.5	-22.2	37.24	54	-16.76	-	-	305	180	V
* 3.837	38	PKFH	33.1	-30.2	40.9	-	-	74	-33.1	280	200	H
* 3.838	26.72	VA1T	33.1	-30.2	29.62	54	-24.38	-	-	280	200	H
* 12.02	32.19	PKFH	39.1	-23.1	48.19	-	-	74	-25.81	290	205	H
* 12.02	20.93	VA1T	39.1	-23.1	36.93	54	-17.07	-	-	290	205	H
* 4.284	37.27	PKFH	33.5	-30	40.77	-	-	74	-33.23	300	203	V
* 4.284	26.6	VA1T	33.5	-30	30.1	54	-23.9	-	-	300	203	V
* 11.215	30.14	PKFH	37.9	-22.4	45.64	-	-	74	-28.36	303	186	V
* 11.215	20.1	VA1T	37.9	-22.4	35.6	54	-18.4	-	-	303	186	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

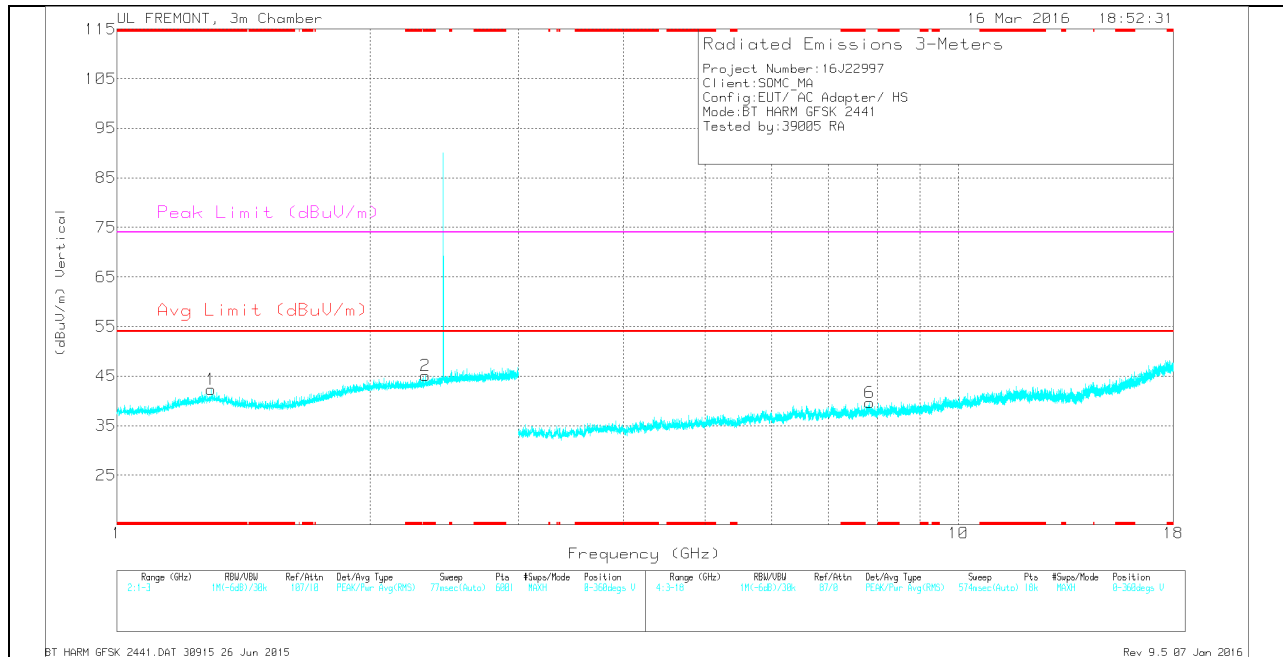
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.295	35.58	Pk	29.8	-23.1	42.28	-	-	74	-31.72	0-360	100	V
2	* 2.327	35.72	Pk	31.7	-22.3	45.12	-	-	74	-28.88	0-360	200	V
4	* 4.815	32.73	Pk	34	-29.1	37.63	-	-	74	-36.37	0-360	200	H
5	* 7.599	30.29	Pk	35.7	-26.2	39.79	-	-	74	-34.21	0-360	200	H
3	4.443	33.5	Pk	33.7	-29.6	37.6	-	-	-	-	0-360	200	H
6	7.837	29.35	Pk	35.8	-25.5	39.65	-	-	-	-	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

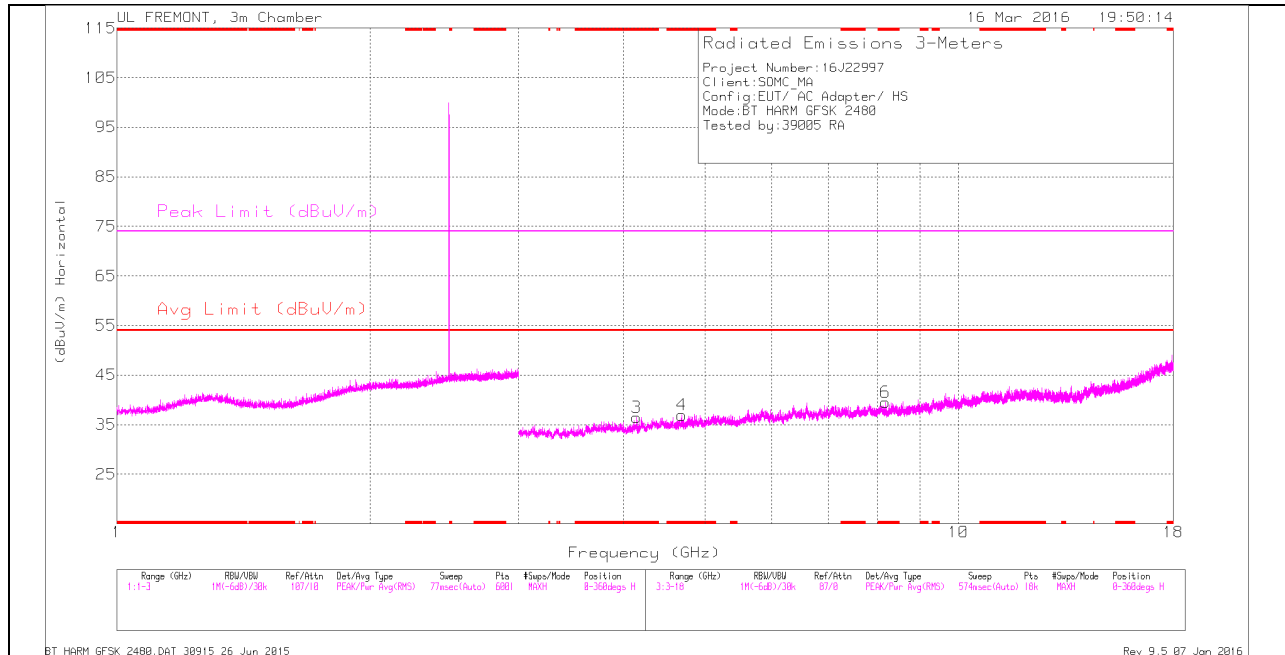
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.295	38.79	PKFH	29.8	-23.1	45.49	-	-	74	-28.51	330	189	V
* 1.295	28.1	VA1T	29.8	-23.1	34.8	54	-19.2	-	-	330	189	V
* 2.327	39	PKFH	31.7	-22.3	48.4	-	-	74	-25.6	334	195	V
* 2.327	28	VA1T	31.7	-22.3	37.4	54	-16.6	-	-	334	195	V
* 4.815	36.5	PKFH	34	-29.1	41.4	-	-	74	-32.6	280	200	H
* 4.814	25.31	VA1T	34	-29.1	30.21	54	-23.79	-	-	280	200	H
* 7.599	34.64	PKFH	35.7	-26.2	44.14	-	-	74	-29.86	290	200	H
* 7.6	23.24	VA1T	35.7	-26.2	32.74	54	-21.26	-	-	290	200	H
4.443	37.12	PKFH	33.7	-29.6	41.22	-	-	74	-32.78	302	179	H
4.444	26.05	VA1T	33.7	-29.6	30.15	54	-23.85	-	-	302	179	H
7.835	22.78	VA1T	35.8	-25.5	33.08	54	-20.92	-	-	286	200	V
7.838	34.24	PKFH	35.8	-25.5	44.54	-	-	74	-29.46	286	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

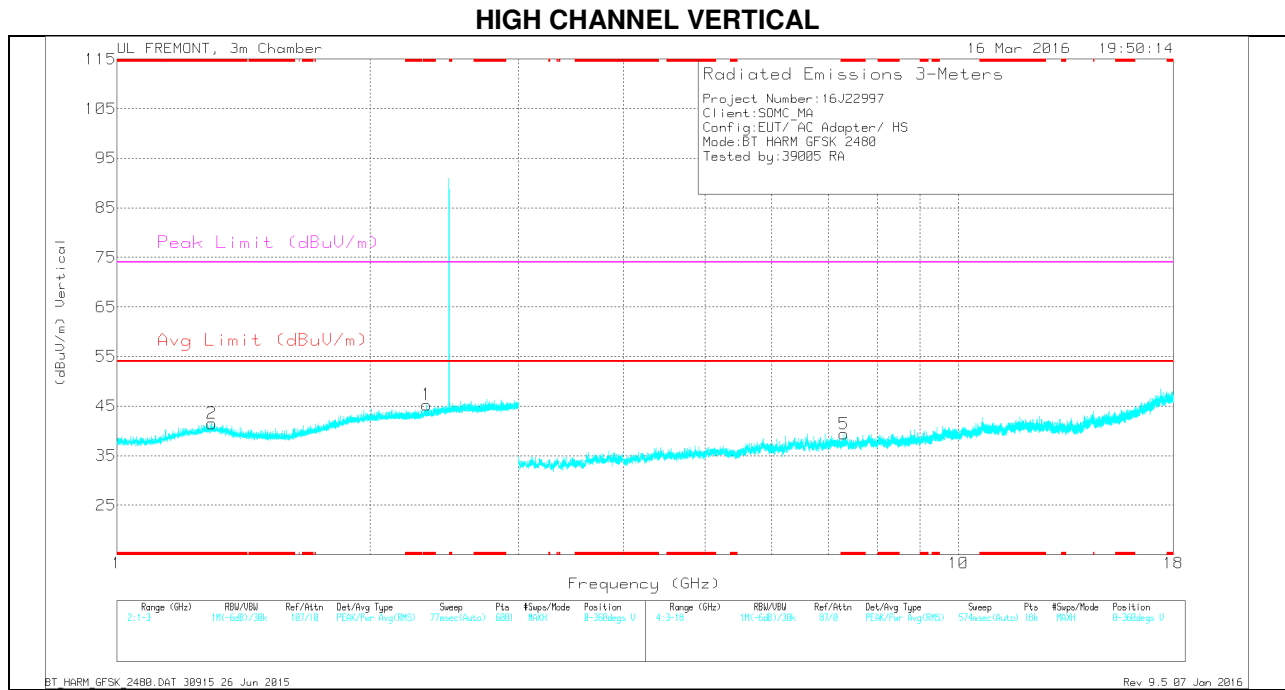
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.334	35.78	Pk	31.8	-22.3	45.28	-	-	74	-28.72	0-360	100	V
2	* 1.297	34.78	Pk	29.9	-23.2	41.48	-	-	74	-32.52	0-360	100	V
3	* 4.147	32.7	Pk	33.3	-29.5	36.5	-	-	74	-37.5	0-360	200	H
4	* 4.69	32.71	Pk	34	-29.8	36.91	-	-	74	-37.09	0-360	200	H
6	* 8.181	30.2	Pk	35.8	-26.5	39.5	-	-	74	-34.5	0-360	200	H
5	* 7.313	30.34	Pk	35.6	-26.6	39.34	-	-	74	-34.66	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.333	39.76	PKFH	31.8	-22.3	49.26	-	-	74	-24.74	319	160	V
* 2.335	27.86	VA1T	31.8	-22.3	37.36	54	-16.64	-	-	319	160	V
* 1.295	39.44	PKFH	29.8	-23.1	46.14	-	-	74	-27.86	280	190	V
* 1.298	28.14	VA1T	29.9	-23.2	34.84	54	-19.16	-	-	280	190	V
* 4.148	36.49	PKFH	33.3	-29.5	40.29	-	-	74	-33.71	290	202	H
* 4.146	25.39	VA1T	33.3	-29.6	29.09	54	-24.91	-	-	290	202	H
* 4.691	36.68	PKFH	34	-29.8	40.88	-	-	74	-33.12	282	195	H
* 4.692	25.55	VA1T	34	-29.8	29.75	54	-24.25	-	-	282	195	H
* 8.182	34.51	PKFH	35.8	-26.5	43.81	-	-	74	-30.19	294	220	H
* 8.182	23.31	VA1T	35.8	-26.5	32.61	54	-21.39	-	-	294	220	H
* 7.312	34.43	PKFH	35.6	-26.6	43.43	-	-	74	-30.57	329	194	V
* 7.313	23.5	VA1T	35.6	-26.6	32.5	54	-21.5	-	-	329	194	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

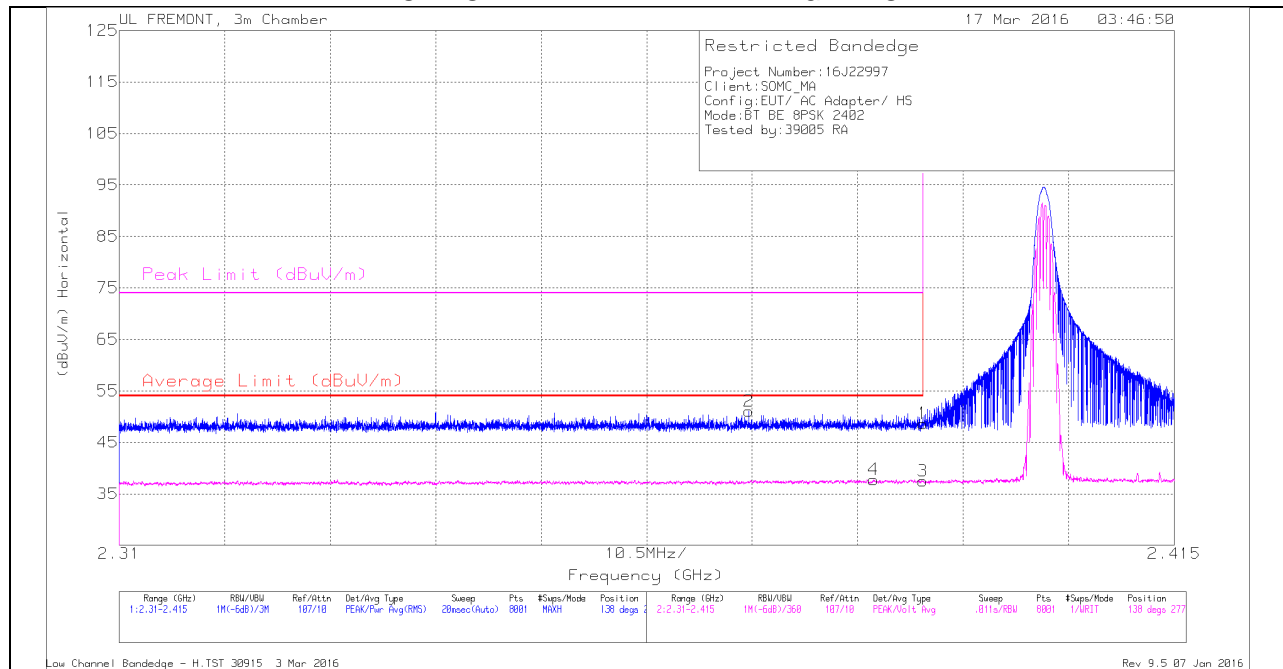
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

9.1.2. ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

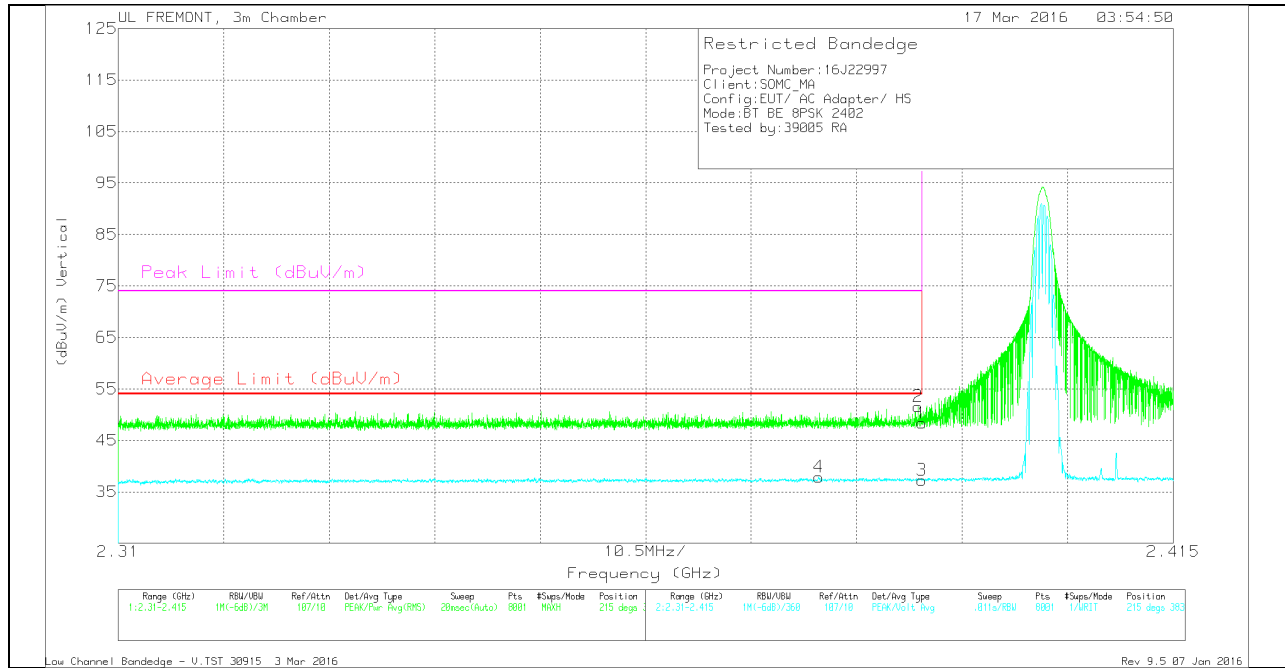
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.373	41.45	Pk	31.9	-22.3	51.05	-	-	74	-22.95	138	277	H
4	2.385	27.96	VA1T	32	-22.2	37.76	54	-16.24	-	-	138	277	H
1	2.39	38.86	Pk	32	-22.2	48.66	-	-	74	-25.34	138	277	H
3	2.39	27.68	VA1T	32	-22.2	37.48	54	-16.52	-	-	138	277	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.38	28.18	VA1T	31.9	-22.2	37.88	54	-16.12	-	-	215	383	V
1	2.39	38.54	Pk	32	-22.2	48.34	-	-	74	-25.66	215	383	V
2	2.39	41.77	Pk	32	-22.2	51.57	-	-	74	-22.43	215	383	V
3	2.39	27.48	VA1T	32	-22.2	37.28	54	-16.72	-	-	215	383	V

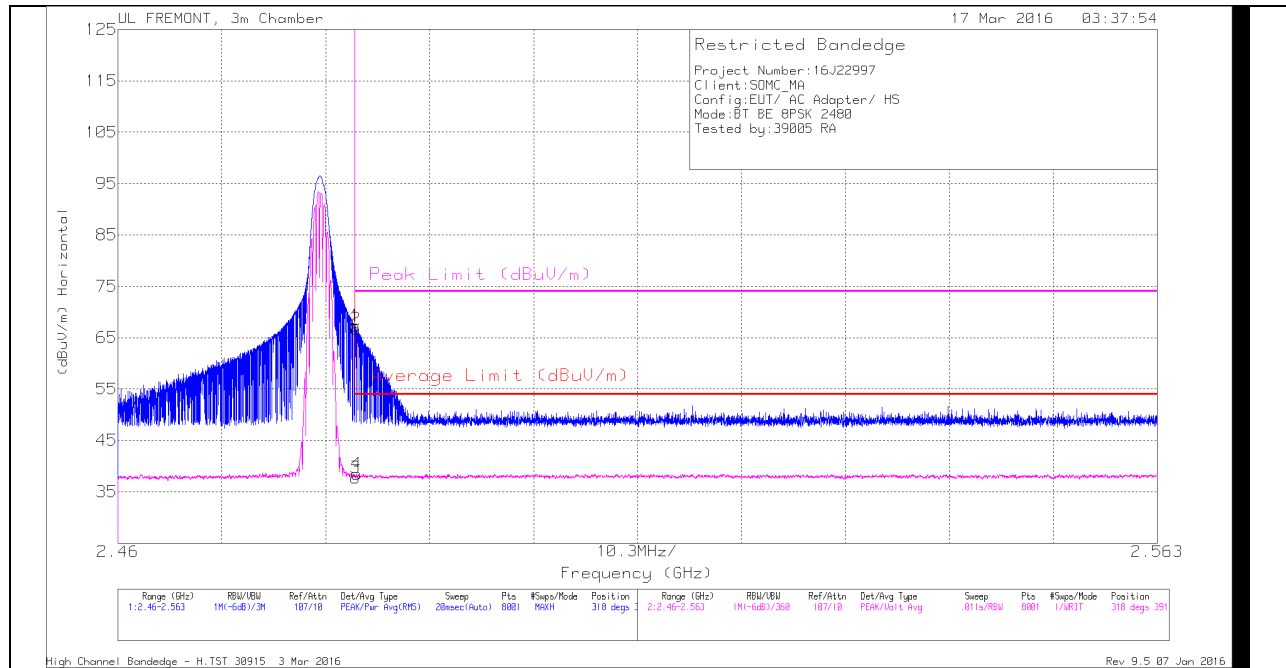
* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

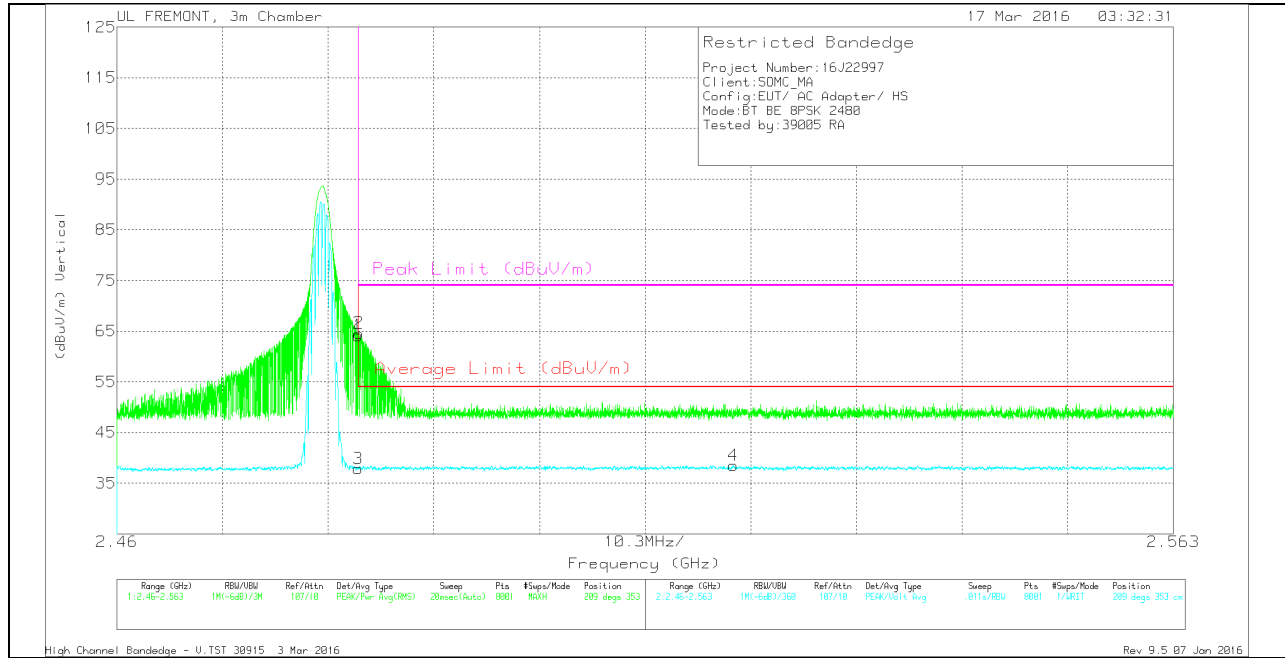
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Af T119 (dB/m)	Amp/Cbl/Fitr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	57	Pk	32.3	-22	67.3	-	-	74	-6.7	318	391	H
2	2.484	56.39	Pk	32.3	-22	66.69	-	-	74	-7.31	318	391	H
3	2.484	27.44	VA1T	32.3	-22	37.74	54	-16.26	-	-	318	391	H
4	2.484	28.19	VA1T	32.3	-22	38.49	54	-15.51	-	-	318	391	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	53.84	Pk	32.3	-22	64.14	-	-	74	-9.86	209	353	V
2	2.484	54.33	Pk	32.3	-22	64.63	-	-	74	-9.37	209	353	V
3	2.484	27.58	VA1T	32.3	-22	37.88	54	-16.12	-	-	209	353	V
4	2.52	28.15	VA1T	32.3	-21.9	38.55	54	-15.45	-	-	209	353	V

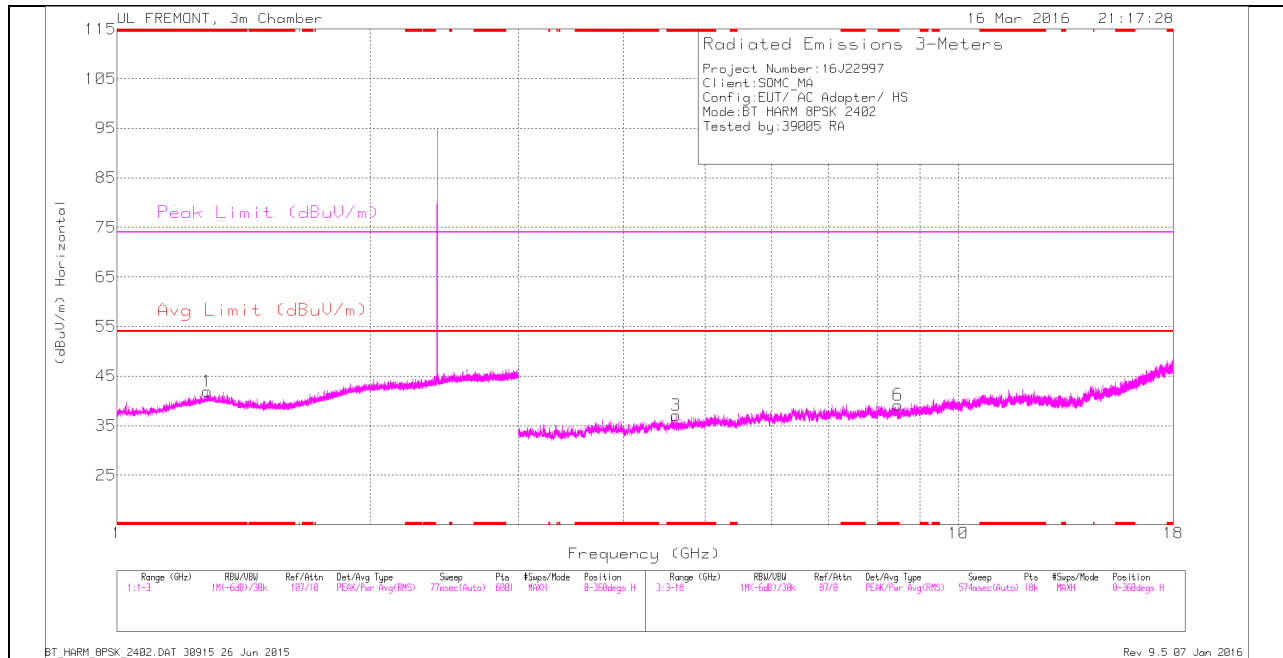
* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

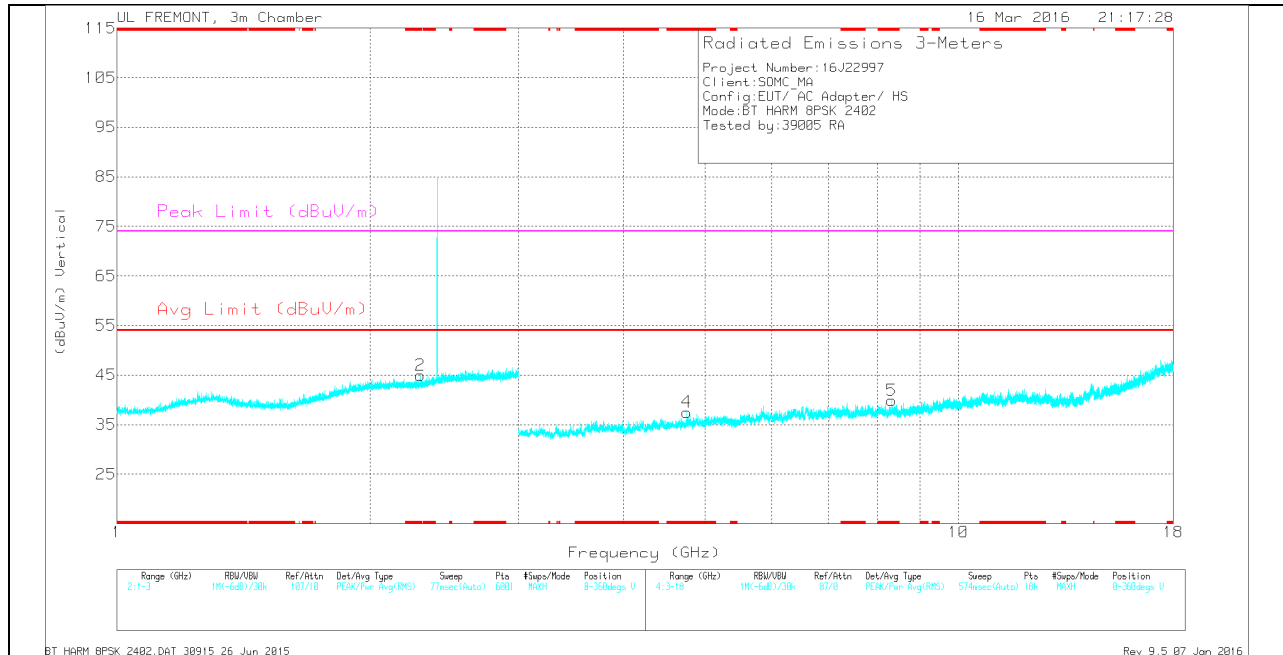
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.282	35.41	Pk	29.7	-23.2	41.91	-	-	74	-32.09	0-360	200	H
2	* 2.295	35.71	Pk	31.6	-22.3	45.01	-	-	74	-28.99	0-360	200	V
3	* 4.622	32.84	Pk	33.9	-29.7	37.04	-	-	74	-36.96	0-360	200	H
6	* 8.476	29.79	Pk	35.8	-26.4	39.19	-	-	74	-34.81	0-360	100	H
4	* 4.758	33.44	Pk	34	-29.9	37.54	-	-	74	-36.46	0-360	200	V
5	* 8.325	30.04	Pk	35.8	-25.9	39.94	-	-	74	-34.06	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

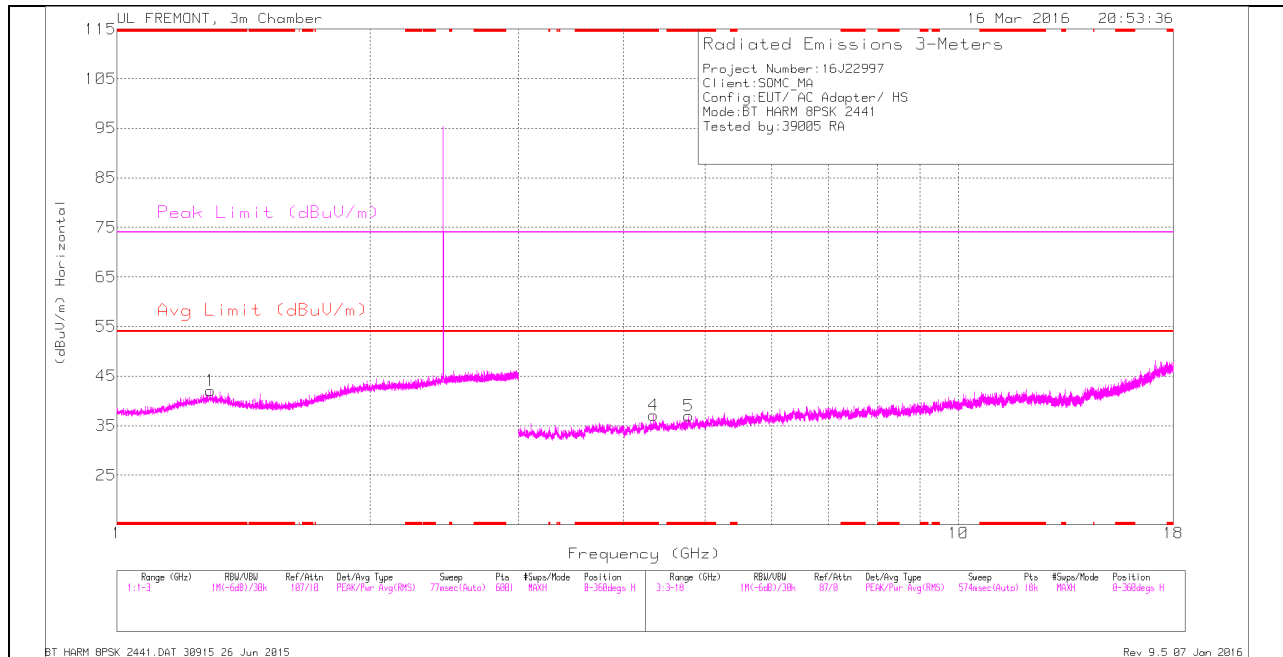
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.282	38.55	PKFH	29.7	-23.2	45.05	-	-	74	-28.95	342	196	H
* 1.281	28.07	VA1T	29.7	-23.2	34.57	54	-19.43	-	-	342	196	H
* 2.296	38.82	PKFH	31.6	-22.3	48.12	-	-	74	-25.88	300	189	V
* 2.295	27.85	VA1T	31.6	-22.3	37.15	54	-16.85	-	-	300	189	V
* 4.622	36.35	PKFH	33.9	-29.7	40.55	-	-	74	-33.45	289	209	H
* 4.622	25.41	VA1T	33.9	-29.7	29.61	54	-24.39	-	-	289	209	H
* 8.477	34.29	PKFH	35.8	-26.4	43.69	-	-	74	-30.31	293	216	H
* 8.476	22.91	VA1T	35.8	-26.4	32.31	54	-21.69	-	-	293	216	H
* 4.76	37.12	PKFH	34	-29.9	41.22	-	-	74	-32.78	302	200	V
* 4.757	25.73	VA1T	34	-29.8	29.93	54	-24.07	-	-	302	200	V
* 8.326	33.97	PKFH	35.8	-25.9	43.87	-	-	74	-30.13	290	220	V
* 8.325	22.91	VA1T	35.8	-25.9	32.81	54	-21.19	-	-	290	220	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

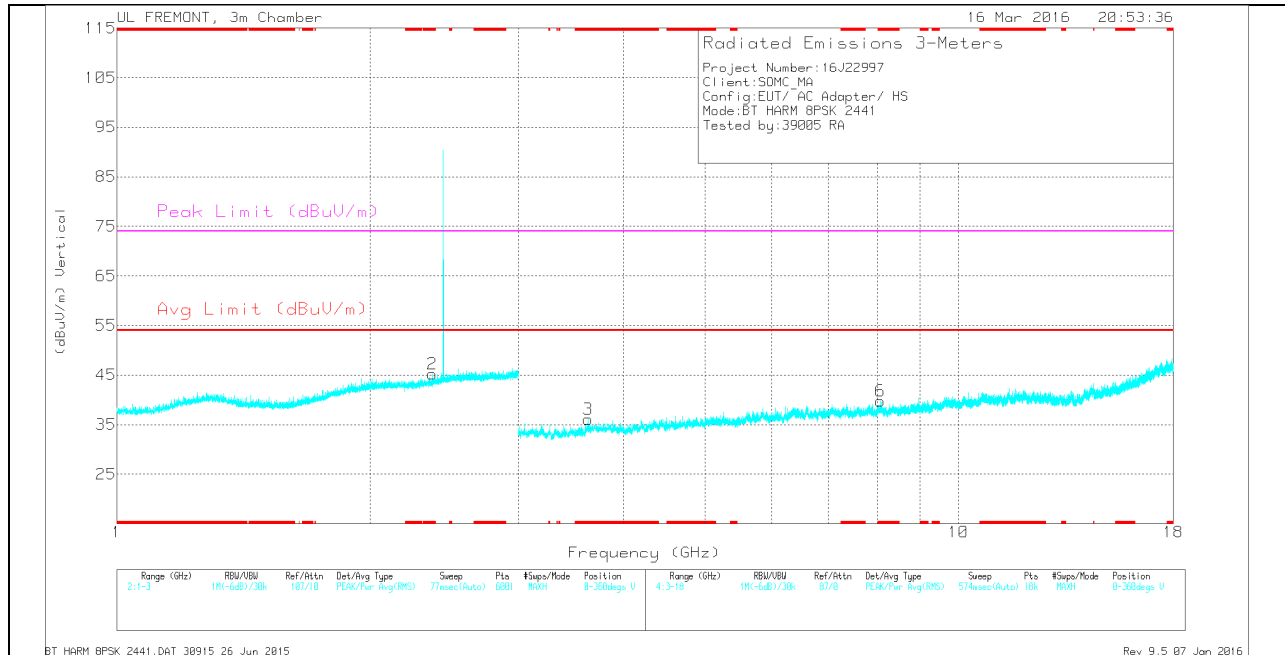
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.291	35.35	Pk	29.8	-23.1	42.05	-	-	74	-31.95	0-360	200	H
2	* 2.369	35.61	Pk	31.9	-22.3	45.21	-	-	74	-28.79	0-360	100	V
4	* 4.339	32.69	Pk	33.6	-29.2	37.09	-	-	74	-36.91	0-360	200	H
5	* 4.777	32.44	Pk	34	-29.5	36.94	-	-	74	-37.06	0-360	200	H
3	* 3.627	33.41	Pk	32.9	-30.2	36.11	-	-	74	-37.89	0-360	200	V
6	* 8.073	30.01	Pk	35.7	-25.9	39.81	-	-	74	-34.19	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

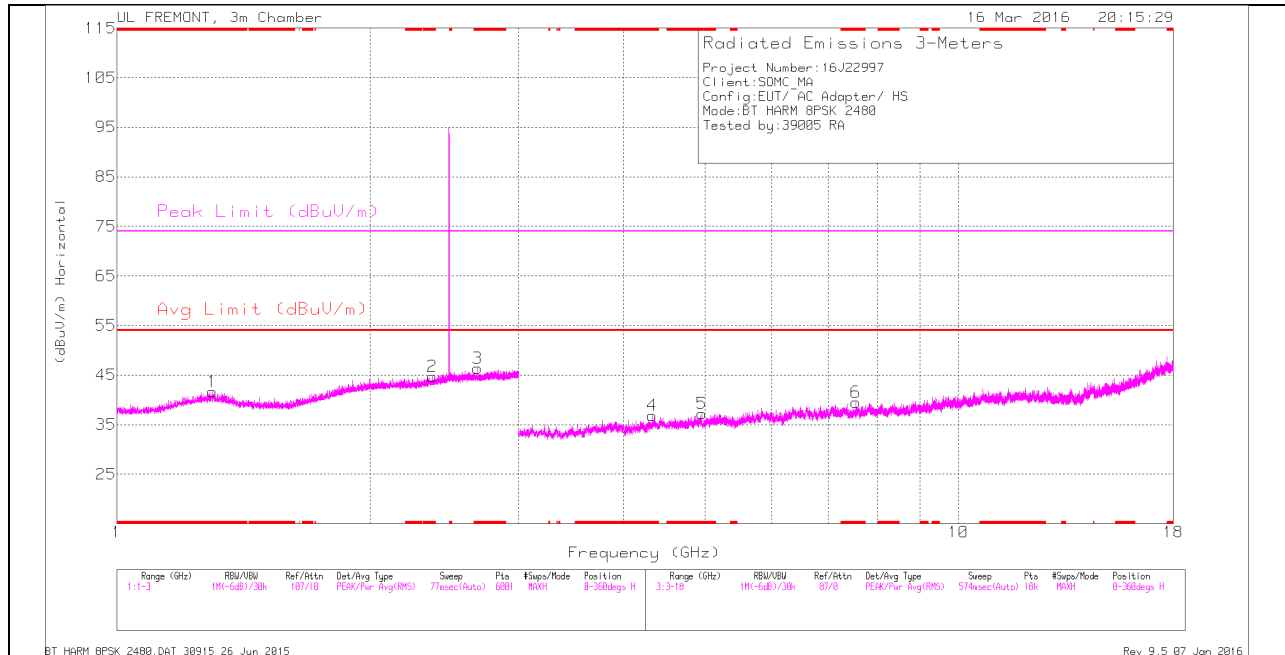
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.291	38.86	PKFH	29.8	-23.1	45.56	-	-	74	-28.44	340	195	H
* 1.29	28.03	VA1T	29.8	-23.2	34.63	54	-19.37	-	-	340	195	H
* 2.368	38.6	PKFH	31.9	-22.3	48.2	-	-	74	-25.8	259	220	V
* 2.371	27.98	VA1T	31.9	-22.3	37.58	54	-16.42	-	-	259	220	V
* 4.339	37.5	PKFH	33.6	-29.2	41.9	-	-	74	-32.1	331	190	H
* 4.34	25.92	VA1T	33.6	-29.2	30.32	54	-23.68	-	-	331	190	H
* 4.775	37.86	PKFH	34	-29.5	42.36	-	-	74	-31.64	342	200	H
* 4.778	25.97	VA1T	34	-29.5	30.47	54	-23.53	-	-	342	200	H
* 3.627	38.19	PKFH	32.9	-30.2	40.89	-	-	74	-33.11	331	194	V
* 3.627	26.59	VA1T	32.9	-30.2	29.29	54	-24.71	-	-	331	194	V
* 8.071	34.82	PKFH	35.7	-26	44.52	-	-	74	-29.48	194	178	V
* 8.072	22.55	VA1T	35.7	-26	32.25	54	-21.75	-	-	194	178	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

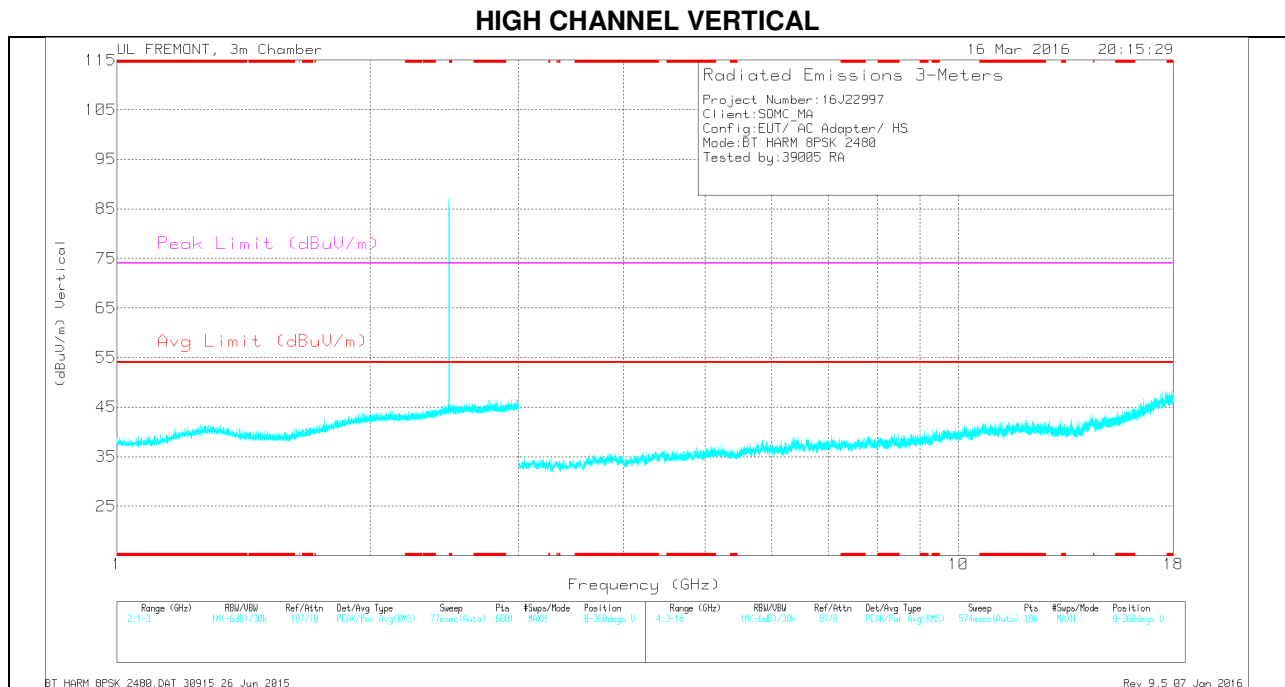
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.298	34.94	Pk	29.9	-23.2	41.64	-	-	74	-32.36	0-360	200	H
2	* 2.372	35.16	Pk	31.9	-22.3	44.76	-	-	74	-29.24	0-360	200	H
3	* 2.683	35.96	Pk	32.3	-21.9	46.36	-	-	74	-27.64	0-360	100	H
4	* 4.326	32.87	Pk	33.5	-29.5	36.87	-	-	74	-37.13	0-360	100	H
5	* 4.956	32.57	Pk	34	-29.4	37.17	-	-	74	-36.83	0-360	100	H
6	* 7.55	30.82	Pk	35.7	-27	39.52	-	-	74	-34.48	0-360	100	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.299	39.11	PKFH	29.9	-23.2	45.81	-	-	74	-28.19	360	200	H
* 1.299	28	VA1T	29.9	-23.2	34.7	54	-19.3	-	-	360	200	H
* 2.37	38.28	PKFH	31.9	-22.3	47.88	-	-	74	-26.12	320	198	H
* 2.37	27.99	VA1T	31.9	-22.3	37.59	54	-16.41	-	-	320	198	H
* 2.684	39.01	PKFH	32.3	-21.9	49.41	-	-	74	-24.59	260	169	H
* 2.681	27.99	VA1T	32.3	-21.9	38.39	54	-15.61	-	-	260	169	H
* 4.325	37.06	PKFH	33.5	-29.5	41.06	-	-	74	-32.94	245	160	H
* 4.328	25.77	VA1T	33.5	-29.4	29.87	54	-24.13	-	-	245	160	H
* 4.957	36.46	PKFH	34	-29.4	41.06	-	-	74	-32.94	230	208	H
* 4.956	25.85	VA1T	34	-29.4	30.45	54	-23.55	-	-	230	208	H
* 7.549	33.97	PKFH	35.7	-27	42.67	-	-	74	-31.33	299	171	H
* 7.549	23	VA1T	35.7	-27	31.7	54	-22.3	-	-	299	171	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

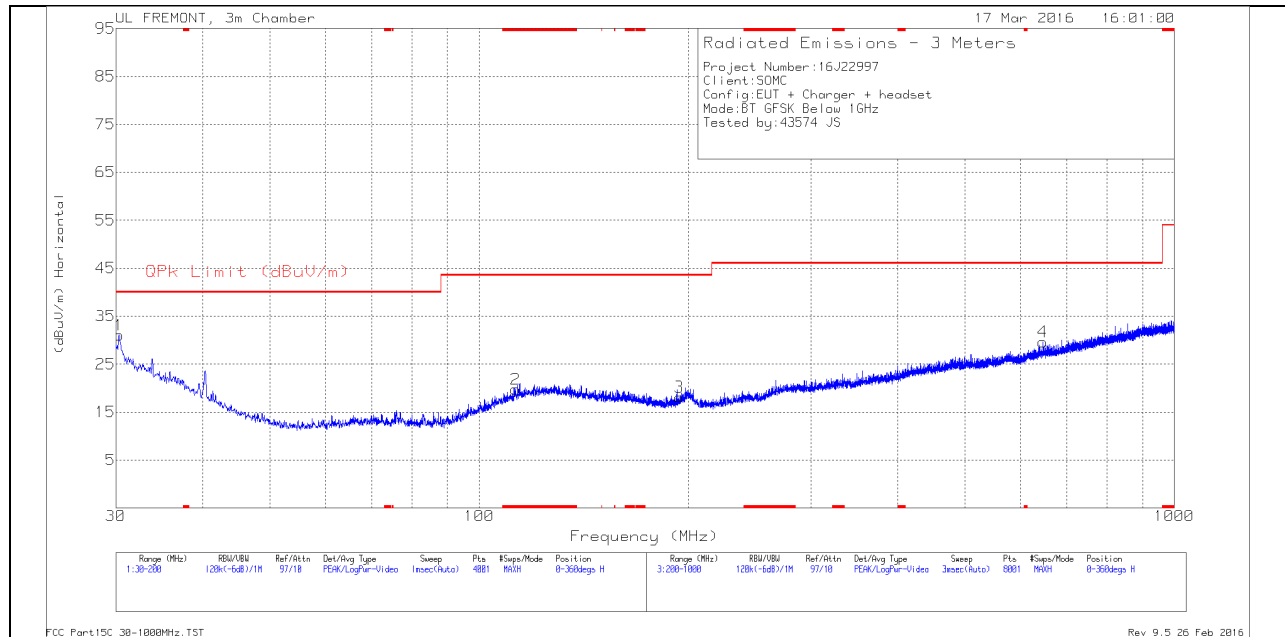
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

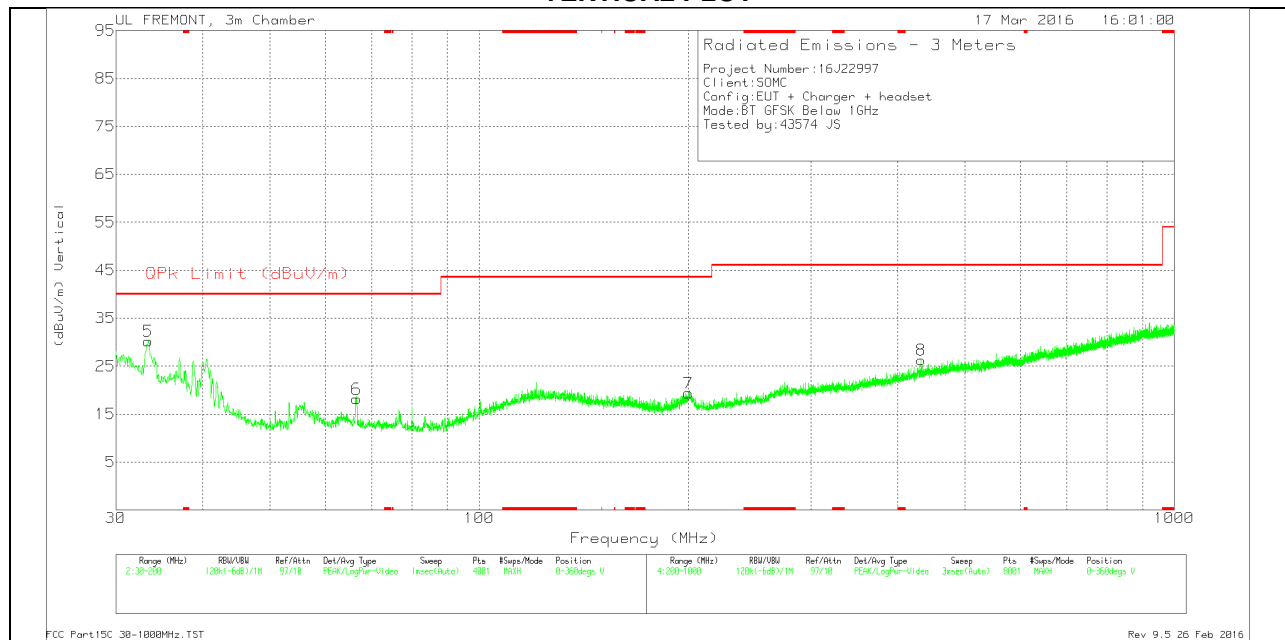
9.2. WORST-CASE BELOW 1 GHz

GFSK SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



VERTICAL PLOT



BELOW 1 GHz TABLE

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T122 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 112.8325	28.87	Pk	17.1	-26.2	19.77	43.52	-23.75	0-360	200	H
1	30.34	33.19	Pk	25.1	-27.2	31.09	40	-8.91	0-360	200	H
5	33.4	34.62	Pk	22.7	-27.1	30.22	40	-9.78	0-360	100	V
6	66.5925	32.96	Pk	11.9	-26.7	18.16	40	-21.84	0-360	100	V
3	194.0075	27.83	Pk	15.5	-25.2	18.13	43.52	-25.39	0-360	100	H
7	199.9575	28.09	Pk	16.5	-25.2	19.39	43.52	-24.13	0-360	100	V
8	432.4	30.77	Pk	20.4	-24.9	26.27	46.02	-19.75	0-360	300	V
4	646.6	30.36	Pk	23.8	-24.5	29.66	46.02	-16.36	0-360	300	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56	56 to 46
0.5 - 5	56	46
5 - 30	60	50

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

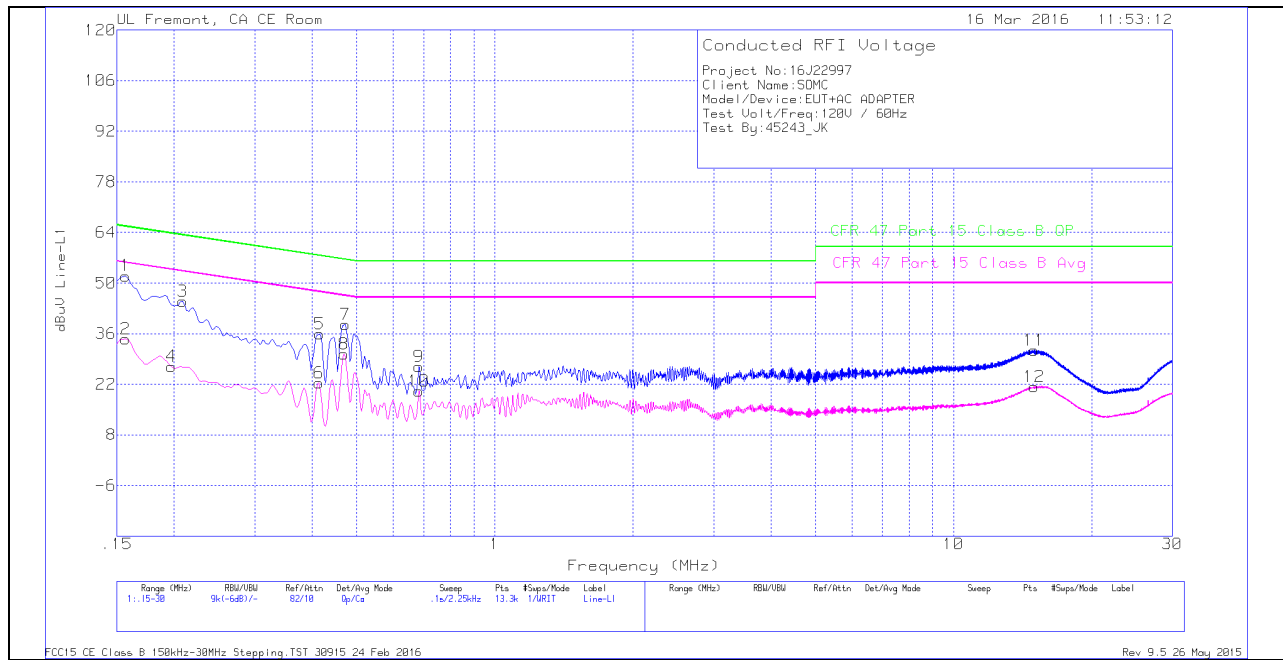
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULT

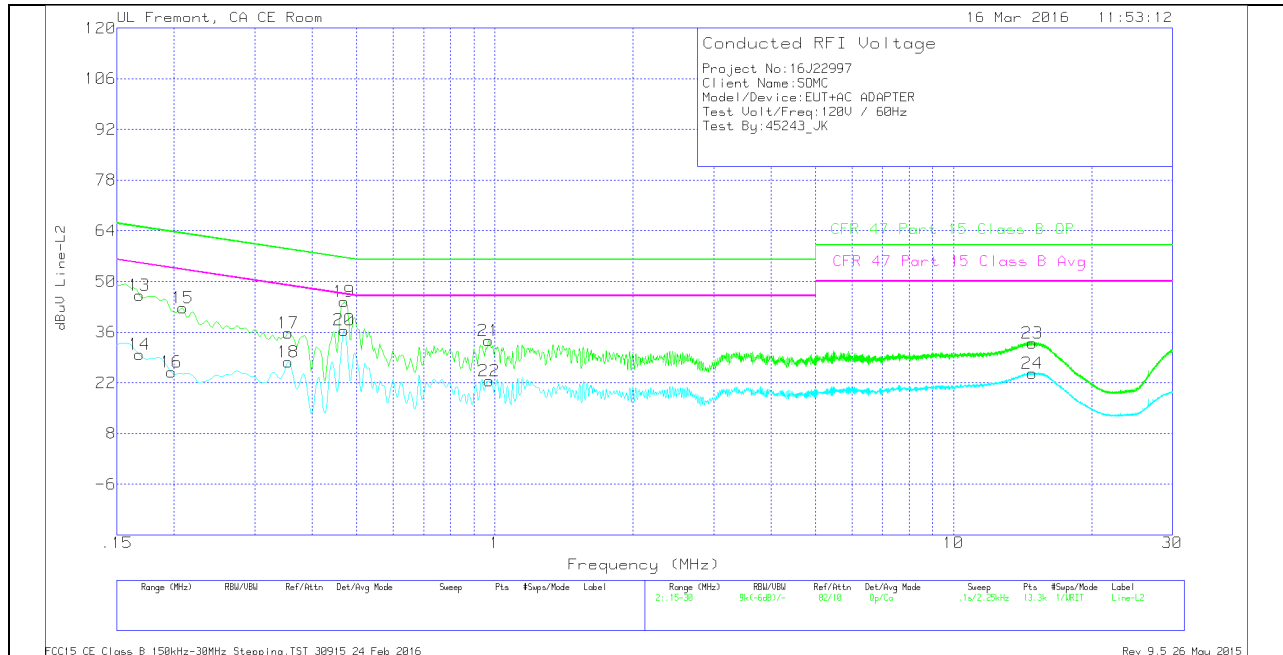
Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.15675	40.6	Qp	1.3	0	10.1	52	65.63	-13.63	-	-
2	.15675	23.13	Ca	1.3	0	10.1	34.53	-	-	55.63	-21.1
3	.2085	34.01	Qp	.9	0	10.1	45.01	63.26	-18.25	-	-
4	.19725	15.86	Ca	1	0	10.1	26.96	-	-	53.73	-26.77
5	.4155	25.43	Qp	.4	0	10.1	35.93	57.54	-21.61	-	-
6	.41325	11.88	Ca	.4	0	10.1	22.38	-	-	47.58	-25.2
7	.47175	28.08	Qp	.4	0	10.1	38.58	56.48	-17.9	-	-
8	.4695	19.89	Ca	.4	0	10.1	30.39	-	-	46.52	-16.13
9	.68325	16.42	Qp	.3	0	10.1	26.82	56	-29.18	-	-
10	.68325	9.73	Ca	.3	0	10.1	20.13	-	-	46	-25.87
11	14.99775	20.79	Qp	.2	.2	10.2	31.39	60	-28.61	-	-
12	14.99775	10.71	Ca	.2	.2	10.2	21.31	-	-	50	-28.69

Pk - Peak detector

Av - Average detection

LINE 2 PLOT



LINE 2 RESULT

Trace Markers

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.168	34.78	Qp	1.3	0	10.1	46.18	65.06	-18.88	-	-
14	.168	18.46	Ca	1.3	0	10.1	29.86	-	-	55.06	-25.2
15	.2085	31.68	Qp	.9	0	10.1	42.68	63.26	-20.58	-	-
16	.19725	13.81	Ca	1	0	10.1	24.91	-	-	53.73	-28.82
17	.35475	25.22	Qp	.5	0	10.1	35.82	58.85	-23.03	-	-
18	.35475	17.15	Ca	.5	0	10.1	27.75	-	-	48.85	-21.1
19	.4695	33.96	Qp	.4	0	10.1	44.46	56.52	-12.06	-	-
20	.4695	26.03	Ca	.4	0	10.1	36.53	-	-	46.52	-9.99
21	.969	23.33	Qp	.3	0	10.1	33.73	56	-22.27	-	-
22	.97125	12.19	Ca	.3	0	10.1	22.59	-	-	46	-23.41
23	14.847	22.44	Qp	.2	.2	10.2	33.04	60	-26.96	-	-
24	14.84925	14.1	Ca	.2	.2	10.2	24.7	-	-	50	-25.3

Pk - Peak detector

Av - Average detection